BOGDANOV, V.I.; SIN VEY-CHZHUN [Hsing Wei-chung]

Investigating by infrared spectroscopy the interaction of beryl and spodumene with reagents. Obog. rud no.6:35-38 '61. (MIRA 15:3)

(Beryl) (Spodumene) (Spectrum, Infrared)

L 58482-65

ACCESSION NR: AP5015519 UR/0286/65/000/008/0056/0056
681.121.144

AUTHOR: Bogdanov, V. I.; Kostyuk, I. Z.; Sinev, N. M.

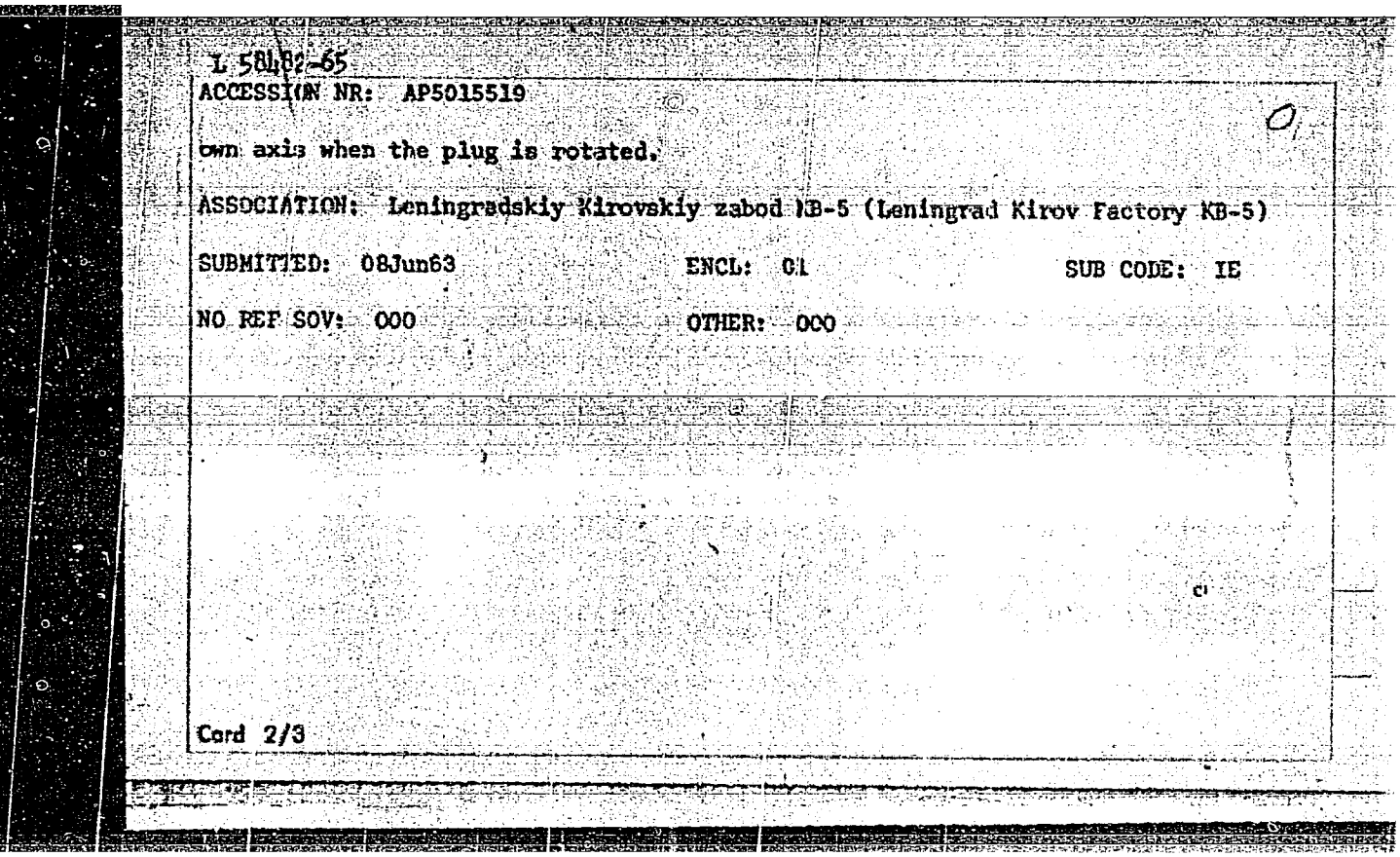
TITLE: Liquid batcher. Class 42, No. 170179

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 8, 1965, 56

TOPIC TAGS: dosimeter, liquid batcher, plug valve, liquid level control

ABSTRACT: This Author's Certificate introduces: 1. A liquid batcher which consists of an airtight delivery vessel, a plug valve, a cylinder and a piston. During operation the piston is alternately connected with radial channels in the valve housing through a radial channel in the plug. The device is designed for delivering batches of liquid to an airtight vessel where the pressure is higher than in the delivery vessel. The cylinder is cut in the valve plug and the piston has a pin which extends beyond the body of the plug. A guide channel cut into the plug stem moves this pin along the vertical when the plug is rotated. 2. A modification of this batcher which has a vertical groove cut in the interior surface of the valve body as a guide for the pin. This keeps the piston from turning about its

Card 1/3



L 58482-65
ACCESSION NR: AP5015519

own axis when the plug is rotated.

ASSOCIATION: Leningradskiy Kirovskiy zabod KB-5 (Leningrad Kirov Factory KB-5)

SUBMITTED: 08Jun63 ENCL: 01 SUB CODE: IE

NO REF SOV: 000 OTHER: 000

Card 2/3

L 58482-65

ACCESSION NR: AP5015519

ENCLOSURE: 01

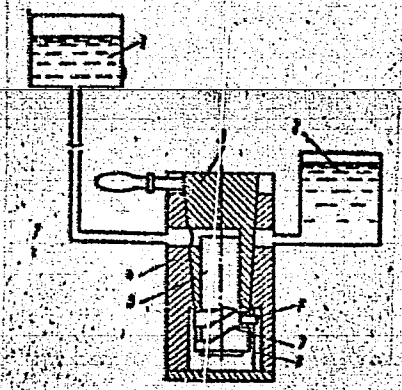


Fig. 1. 1--airtight vessel; 2--airtight delivery vessel; 3--plug; 4--valve housing; 5--piston; 6--pin; 7--guide slot on the plug stem; 8--vertical slot in the valve housing

Card 3/3

BOGDANOV, V.I.; SOROKINA, I.I.

Subsurface structure of the Monche-Chuna-Tundras region according to geophysical data. Vop.razved.geofiz. no.4: 93-102 '64. (MIRA 19:1)

PIVEN', V.D., doktor tekhn.nauk; GLUKHOV, V.K., kand.tekhn.nauk;
BOGDANOV, V.K., kand.tekhn.nauk

Automatic control in large power generating blocks.
Energomashinostroenie 9 no.9:1-3 S '63. (MIRA 16:10)

PIVEN', V.D., kand. tekhn. nauk,; GANZHERLI, E.I., inzh.; BOGDANOV, V.K., inzh.

Automation of unit-plan installations. Energomashinostroenie 4 no. 6:1-7 Je '58. (MIRA 11:8)
(Automatic control)
(Steam power plants)

BOGDANOV, V.K., inzh.

Some problems of dynamics in the regulation of boiler-turbine units. Energomashinostroenie 8 no.1:9-15 Ja '62. (MIRA 15:3)
(Automatic control) (Electric power stations) (Steam turbines)

BOGDANOV, V.K., inzh.

Features of using boiler-turbine blocks with intermediate steam superheating. Energomashinostroenie 8 no.11:6-10 N '62. (MIRA 16:1)

(Boilers) (Steam turbines)

PIVEN', V.D., doktor tekhn.nauk; BOGDANOV, V.K., kand.tekhn.nauk;
GANZHERLI, E.I., inzh.

Automatic control network of a 150 Mw. boiler-turbine block and its experimental investigation. Energomashinostroenie 9 no.8: 1-4 Ag '63. (MIRA 16:8)
(Automatic control) (Boilers) (Steam turbines)

BOGDANOV, V. M.

"Hay Harvests and Pastures in the North-Osetinskaya ASSR."
Dr Agr Sci, North Osetinsk Agricultural Inst, Dzaudzhikau, 1953
(RZhBiol, No 3, Oct 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (10)

So: Sum. No. 481, 5 May 55

L

COUNTRY : USSR
CATEGORY : Meadow Cultivation

ABS. JOUR. : Ref Zhur-Biologiya, No.4, 1959, No. 15539

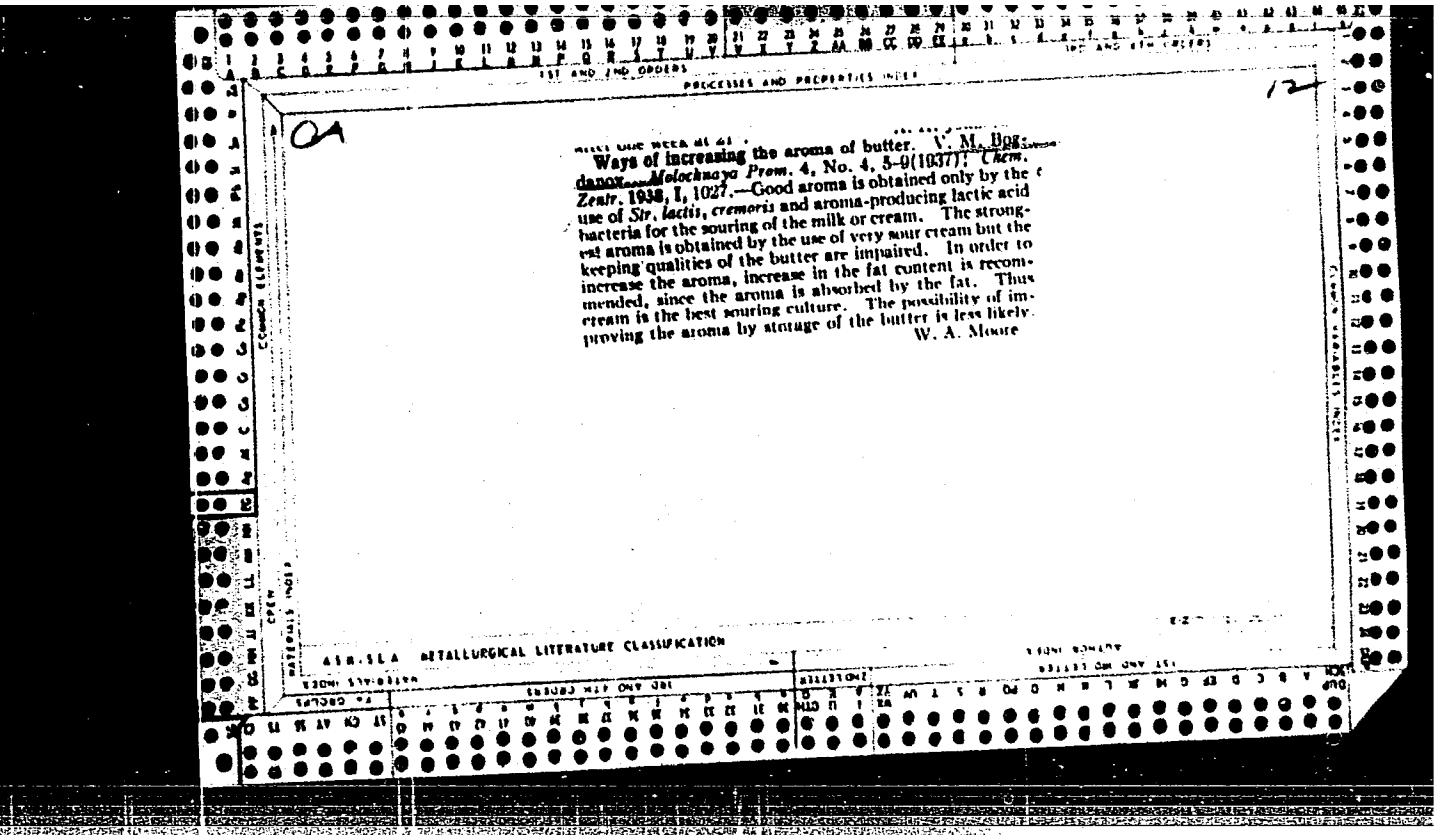
AUTHOR : Bogdanov, V.M.
INST. :
TITLE : Cultivated Pastures of Prolonged Use.

ORIG. PUB. : S. kh. Sev. Kavkaza, 1958, No.6, 45-47

ABSTRACT : No abstract

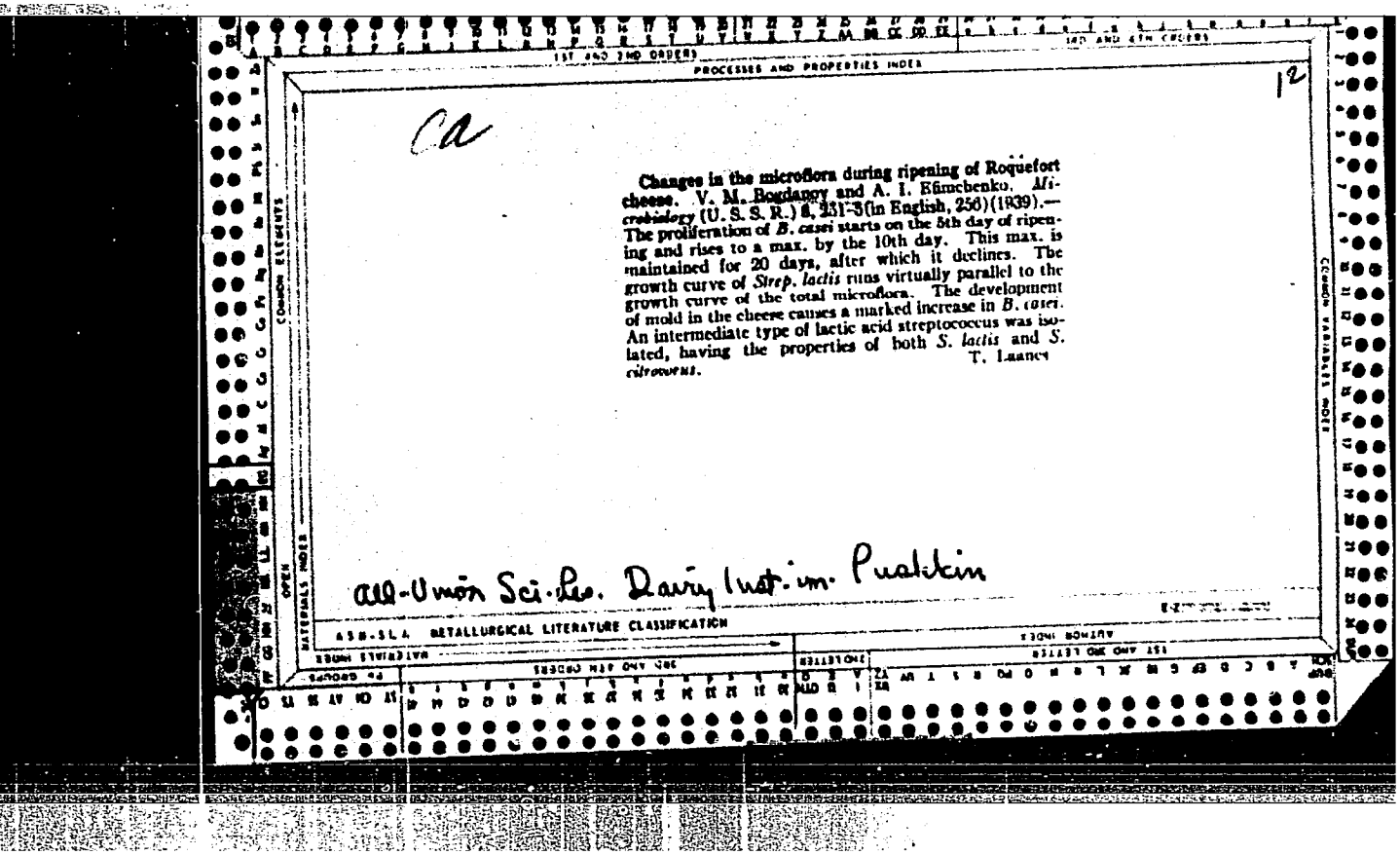
:

CARD: 1/1



Ways of increasing the aroma of butter. V. M. Bogdanov. *Molochnaya Prom.* 4, No. 4, 5–9(1937). *Chem. Zentr.* 1938, I, 1027.—Good aroma is obtained only by the use of *Str. lactis*, *cremoris* and aroma-producing lactic acid bacteria for the souring of the milk or cream. The strongest aroma is obtained by the use of very sour cream but the keeping qualities of the butter are impaired. In order to increase the aroma, increase in the fat content is recommended, since the aroma is absorbed by the fat. Thus cream is the best souring culture. The possibility of improving the aroma by storage of the butter is less likely.

W. A. Moore



PROCESSES AND PROPERTIES INDEX

12

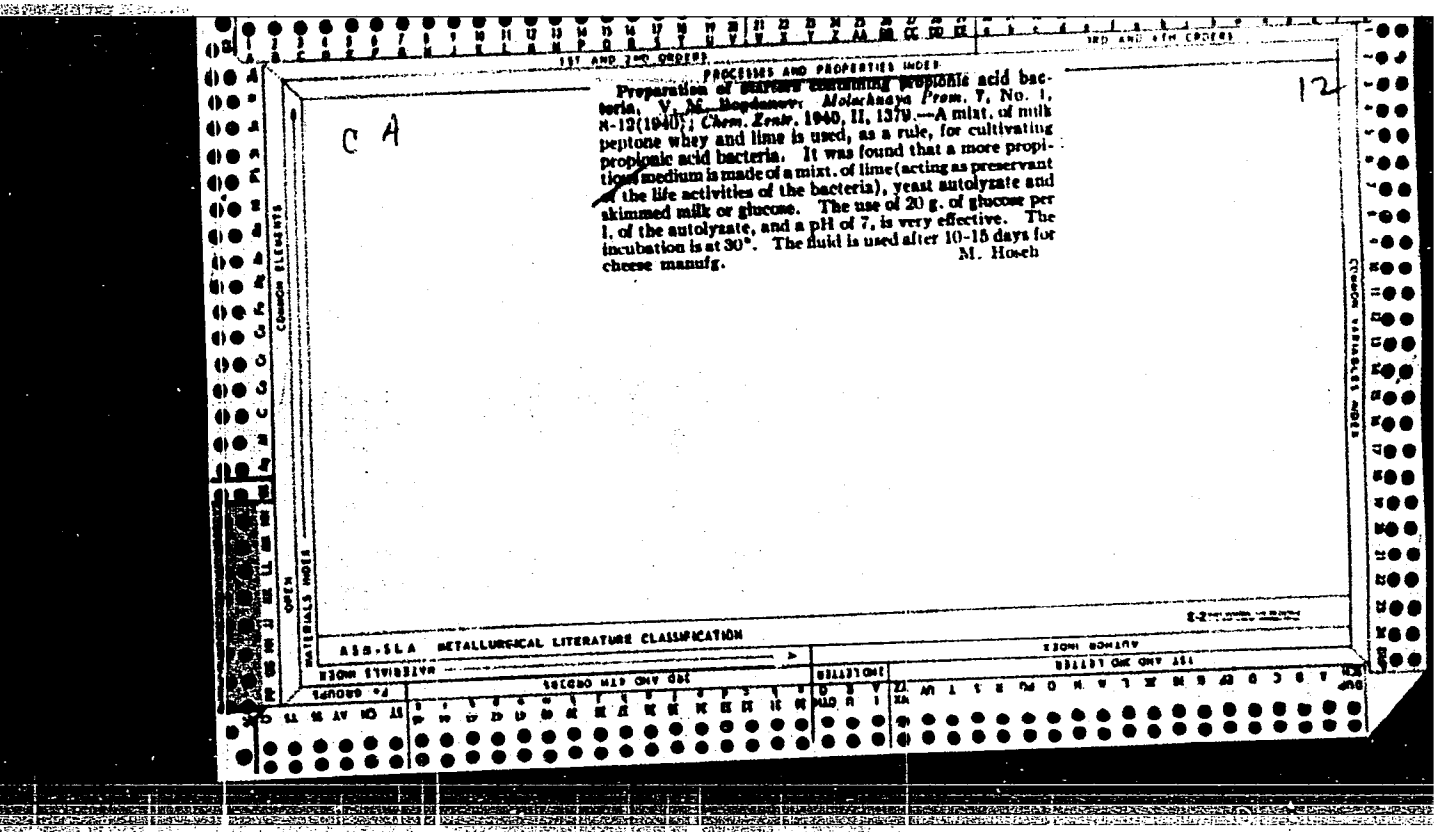
Ca

Changes in the microflora during ripening of Roquefort cheese. V. M. Bogdanov and A. I. Efimchenko. *Microbiology* (U. S. S. R.) 8, 231-3 (in English, 256) (1939).—The proliferation of *B. casei* starts on the 5th day of ripening and rises to a max. by the 10th day. This max. is maintained for 20 days, after which it declines. The growth curve of *Strep. lactis* runs virtually parallel to the growth curve of the total microflora. The development of mold in the cheese causes a marked increase in *B. casei*. An intermediate type of lactic acid streptococcus was isolated, having the properties of both *S. lactis* and *S. citrovorus*.

T. Laanes

All-Union Sci. Res. Dairy Inst. im. Pushkin

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



C A

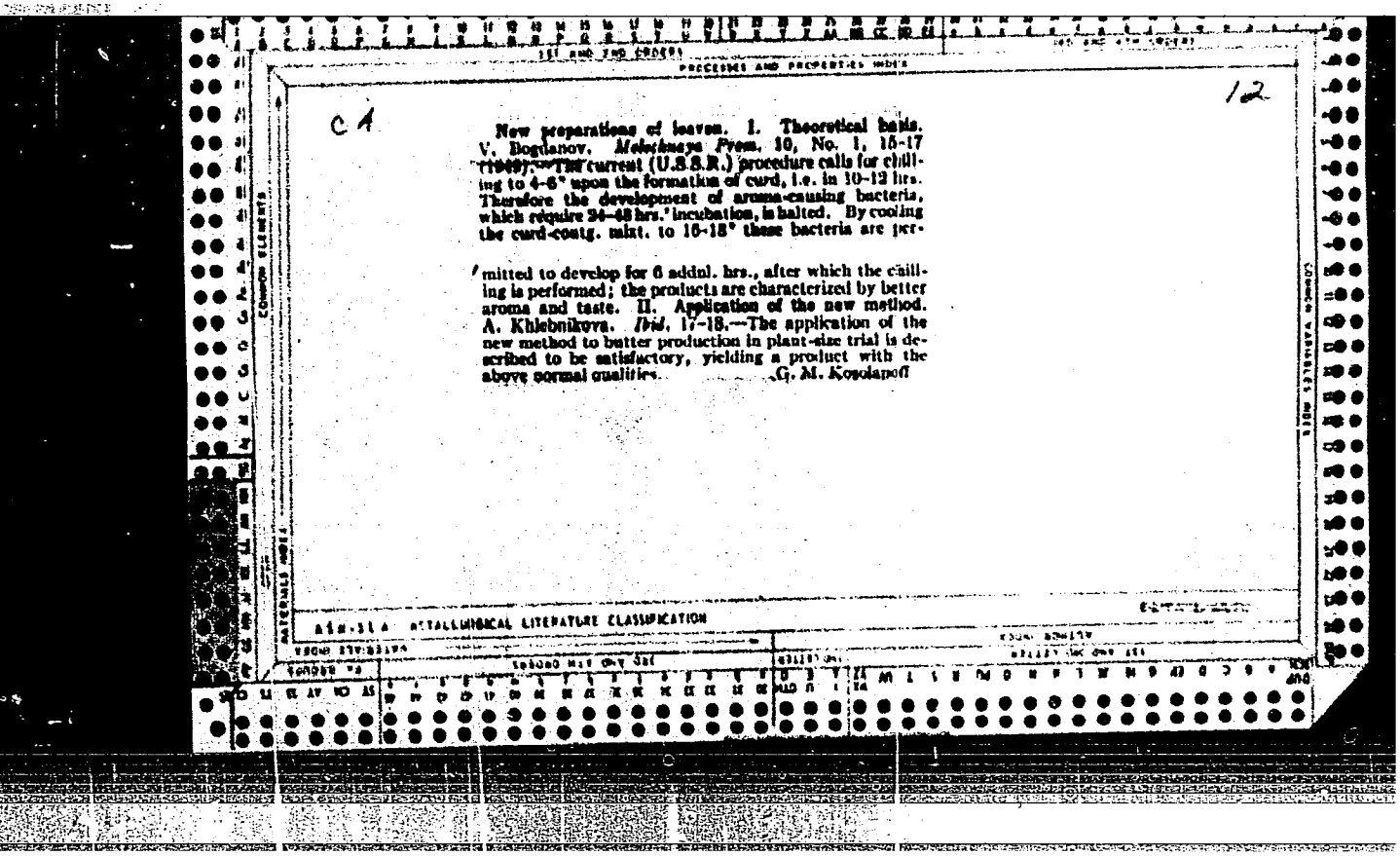
12

PROCESSES AND PROPERTIES INDEX

Preparation of [illegible] propionic acid bacteria. V. M. Bogdanov. *Molochnaya Prom.* 7, No. 1, 8-12(1940); *Chem. Zentr.* 1940, II, 1379.—A mixt. of milk peptone whey and lime is used, as a rule, for cultivating propionic acid bacteria. It was found that a more propitious medium is made of a mixt. of lime (acting as preservant of the life activities of the bacteria), yeast autolyzate and skimmed milk or glucose. The use of 20 g. of glucose per l. of the autolyzate, and a pH of 7, is very effective. The incubation is at 30°. The fluid is used after 10-15 days for cheese manufg.

M. Hoseh

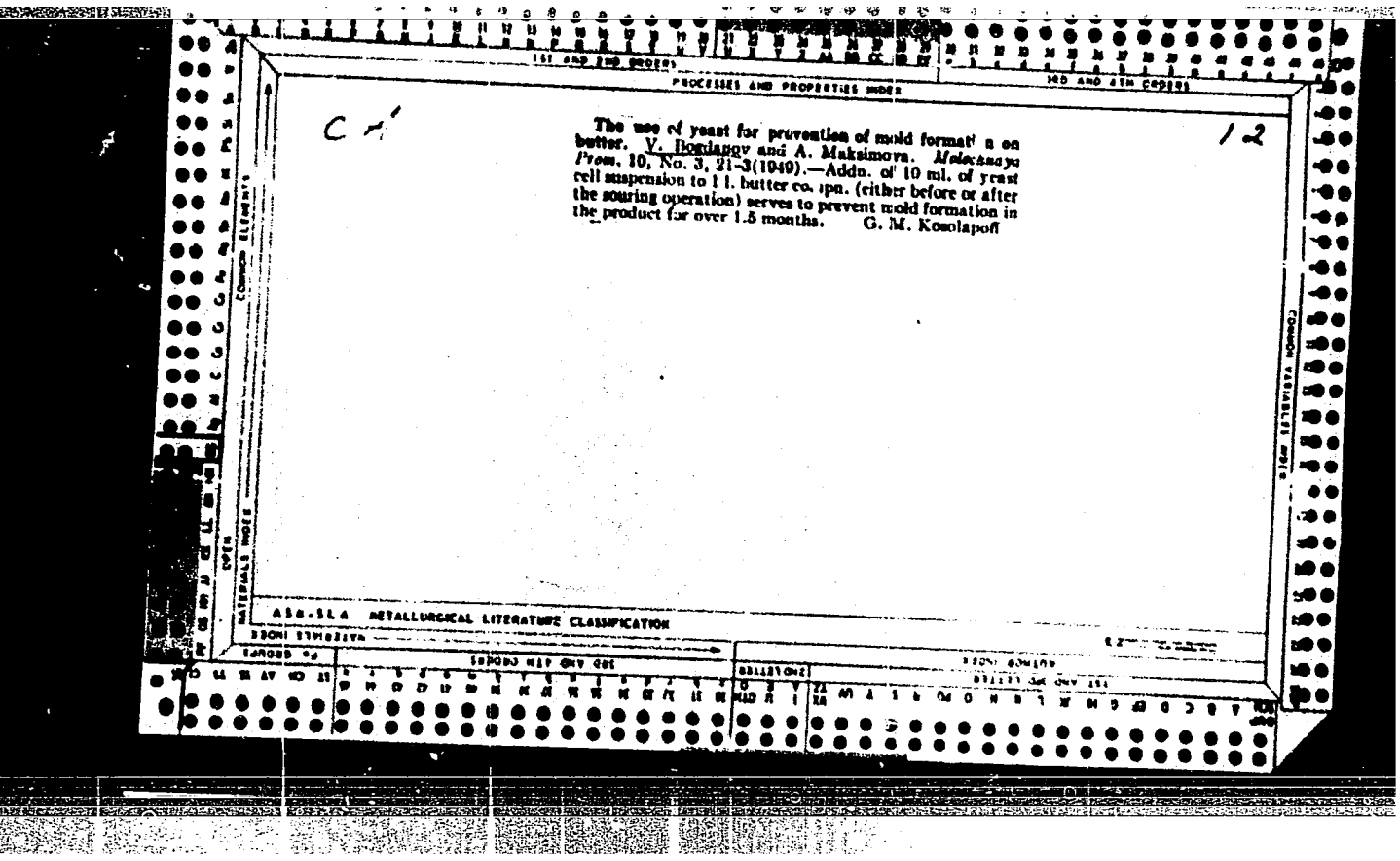
ASS-SLA METALLURGICAL LITERATURE CLASSIFICATION



12

C A

New preparations of leaven. I. Theoretical basis. V. Bogdanov. *Molochnaya Prom.* 10, No. 1, 15-17 (1949).—The current (U.S.S.R.) procedure calls for chilling to 4-6° upon the formation of curd, i.e. in 10-12 hrs. Therefore the development of aroma-causing bacteria, which require 24-48 hrs. incubation, is halted. By cooling the curd-contg. mixt. to 16-18° these bacteria are permitted to develop for 6 addnl. hrs., after which the chilling is performed; the products are characterized by better aroma and taste. II. Application of the new method. A. Khlebnikova. *Ibid*, 17-18.—The application of the new method to butter production in plant-size trial is described to be satisfactory, yielding a product with the above normal qualities. G. M. Kosolapoff



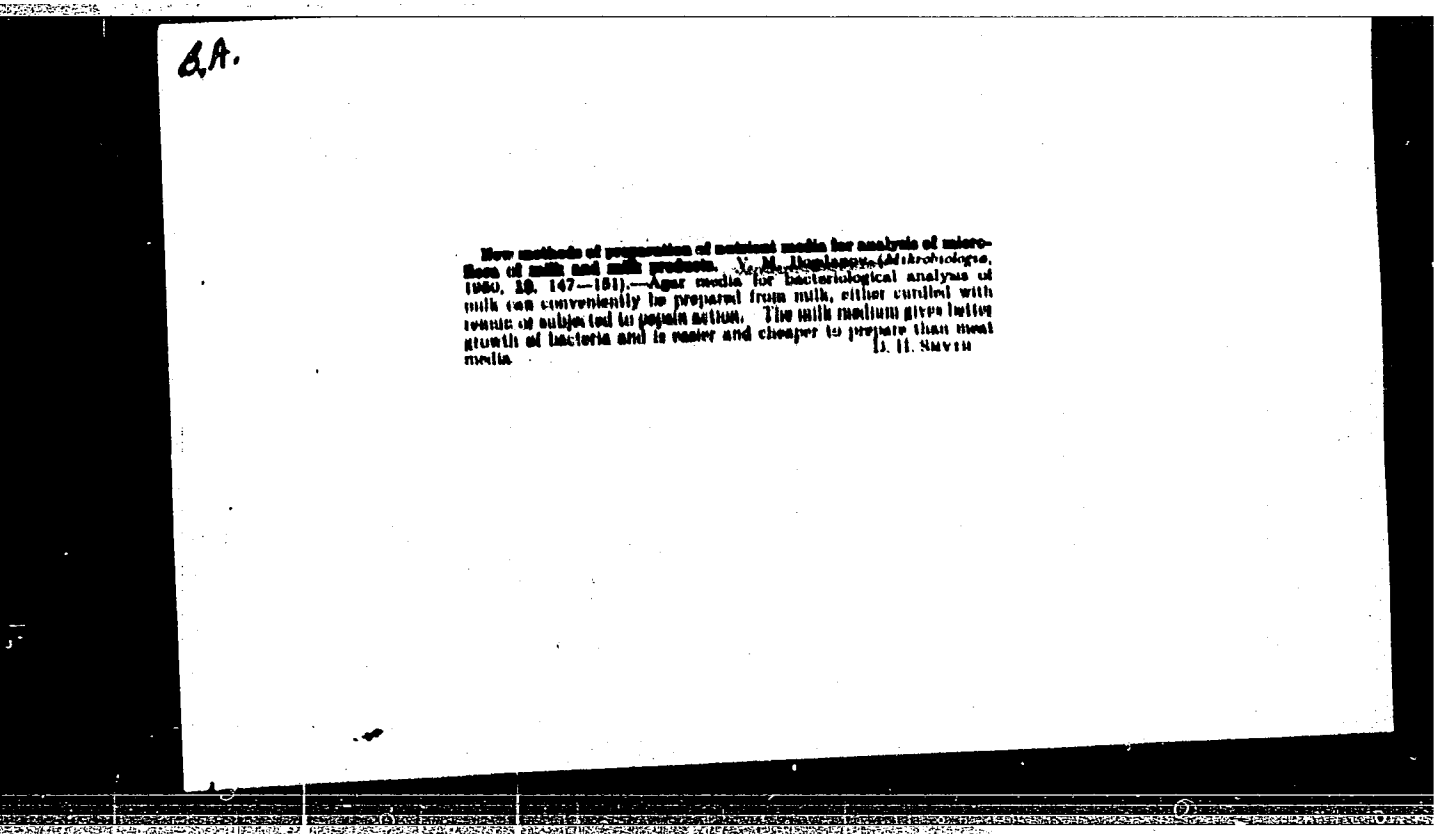
C-4

12

The use of yeast for prevention of mold formati n on butter. V. Bondarev and A. Maksimova. *Molochnaya Prom.* 10, No. 3, 21-3(1949).—Addn. of 10 ml. of yeast cell suspension to 1 l. butter co. ipn. (either before or after the souring operation) serves to prevent mold formation in the product for over 1.5 months. G. M. Kosolapoff

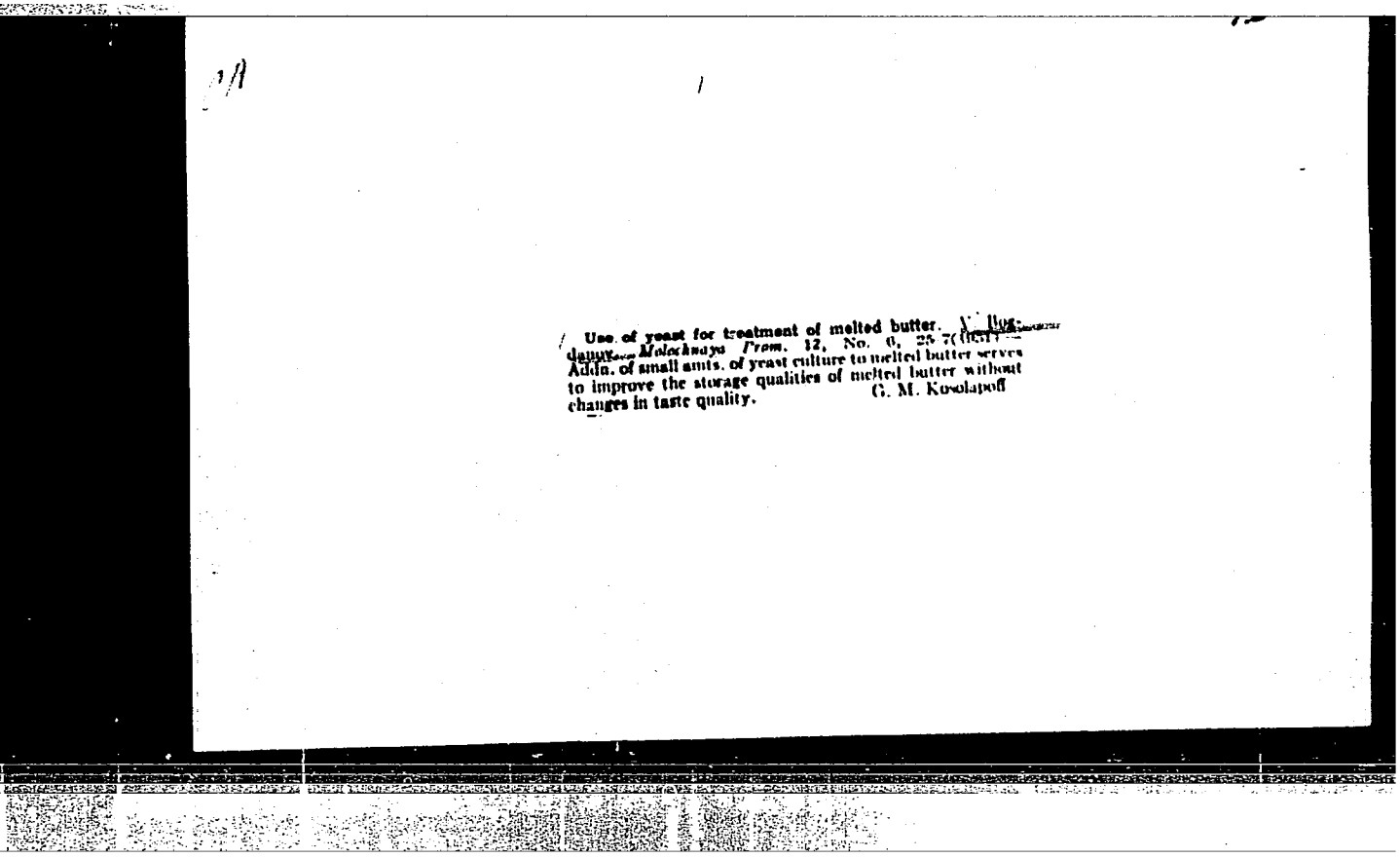
PROCESSES AND PROPERTIES INDEX

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



C.A.

New methods of preparation of nutrient media for analysis of microflora of milk and milk products. V. M. Ikonnikova. (Mikrobiologia, 1950, 19, 147—151).—Agar media for bacteriological analysis of milk can conveniently be prepared from milk, either curdled with rennin or subjected to pepsin action. The milk medium gives better growth of bacteria and is easier and cheaper to prepare than meat media. D. H. Smyth



Use of yeast for treatment of melted butter. V. Ilyinskaya and Molochnaya Prom. 12, No. 6, 25-7(1951).—Addn. of small amts. of yeast culture to melted butter serves to improve the storage qualities of melted butter without changes in taste quality. G. M. Kosolapoff

CA

12

Improvement of stability of butter. V. Bogdanov and A. Titov. *Molochnaya Prom.* 12, No. 9, 26–31(1951).—Results of plant studies show that for storage at subzero temp. the butter from sweet cream is superior, since microbial activity is essentially stopped by low temp. Acid cream butter, however, shows continuation of chem. processes even at low temp., especially if NaCl and acids are allowed to remain in the product, which develops a fishy taste. At temp. above 0° the latter butter type, however, is more stable since microbe development is retarded in it by the presence of lactic acid.

G. M. Kosolapoff

1. TITOV, A.I., BOGDANOV, V. M.
2. USSR (600)
4. Titov, A.L.
7. "Production of butter of increased stability." Mol. prom. 13 No. 10, 1952.

Page 1737

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

BOGDANOV, V.M.

Application of yeast cultures in butter production.

Mikrobiologiya. Vol. 21. P. 391, 1952.

PA 228T22

BOGDANOV, V. M.

USSR/Medicine - Antibiotics Jul/Aug 52

"Extraction of Single-Spore Cultures of Penicillium Fung, by the Dry Needle Method," V. M. Bogdanov, Moscow Sta, All-Union Inst of Plant Protection

"Microbiologiya" Vol 21, No 4, pp 453, 454

Describes an app replacing the micromanipulator. Author claims that his simplified method permits one to isolate single spores in a culture of a penicillium mold or some other fungus, by using a dry needle. Claims that after some practice, 10-15 single spores can be isolated in one hr.

228T22

BOGDANOV, V.M.

Association of science and production.

Mikrobologiya. Vol. 21. P. 455, 1952.

BOGDANOV, V.

Brucellosis

Method for rapid determination of the contamination of milk by brucellosis. Moloch. prom. 14, No. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

BOGDANOV, V.M.

Intensification of aroma of butter cultures (starter). Molochnaya Prom. 14, No.8, 17-20 '53. (MLRA 6:8)
(CA 47 no.22:12678 '53)

BOGDANOV, V.M.

[Microbiology of milk and milk products] Mikrobiologiia moloka i molochnykh produktor. 2. izd. perer. i dop. Moskva, Pishchepromizdat, 1954. 198 p. (MLRA 8:1)
(Milk--Bacteriology) (Dairy products--Analysis and examination)

BOGDANOV, V. M.

N/5
641.44
.B6

MIKROBIOLOGICHESKIY KONTROL' NA PREDPRIYATIYAKH MOLOCHNOY PROMYSHLEN-NOSTI (MICROBIOLCGICAL CONTROL IN DAIRY ENTERPRISES, BY) V. M. BOGDANOV I T. G. ROMANOVICH. MOSKVA, PISHCHEPROMIZDAT, 1955.

218 p. ILLUS., DIAGRS., TABLES.

BIBLIOGRAPHY: p. (216)

BOGDANOV, V.M., kand. biol. nauk; GIBSHMAN, M., retsenzent; KOBZIKOVA, Ye., retsenzent; KIVENKO, S., spetsred.; IVANOVA, N.M., red.; KISINA, Ye.I., tekhn. red.

[Bacterial starters for the manufacture of milk products] Bakterial'nye zakvaski dlia proizvodstva molochnykh produktov. Moskva, Pishchepromizdat, 1956. 55.p. (MIRA 11:7)

(Starters (Dairy products))

BOGDANOV, V.M.

USSR/Biology - Bacteriology

Card 1/1 Pub. 40/42

Authors : Bogdanov, V. M., Cand. Biol. Sc. (All-Union Sc. Research Inst. of the Milk Industry)

Title : Preparation of kefir

Periodical : Priroda 45/1, page 126, Jan 56

Abstract : The fungi are described which are used to produce the fermentation in the process of kefir making. Directions are given for making the kefir itself.

Institution : .....

Submitted : .....

BOGDANOV, V.M., kandidat biologicheskikh nauk.

Role of micro-organisms in dairy industry. Priroda 45 no.4:93-96 Ap '56. (MLRA 9:7)

1.Vsesoyuznyy nauchno-issledovatel'skiy institut molochnoy promyshlennosti.
(Microorganisms) (Dairy products)

BOGDANOV, V.M.

DUDENKOV, Arkadiy Yakovlevich; KIVENKO, S.F., retsenzent; BOGDANOV, V.M., retsenzent; LUSHIN, M.G., retsenzent; AKIMOVA, L.D., redaktor; CHEBYSHEVA, Ye.A., tekhnicheskiy redaktor.

[Testing and processing milk at receiving points] Priemka i pererabotka moloka na pervichnykh predpriiatiiakh. Moskva, Pishchepromizdat, 1957. 127 p. (MIRA 10:11)
(Milk--Analysis and examination)

BOGDANOV, Vyacheslav Mikhaylovich; KIVENKO, S.F., spetsredaktor; IVANOVA, N.M., red.; CHERBYSHEVA, Ye.A., tekhn.red.

[Microbiology of milk and milk products] Mikrobiologiia moloka i molochnykh produktov. Izd.3-e, perer.i dop. Moskva, Pishchepromizdat, 1957. 295 p. (MIRA 11:1)
(Dairy bacteriology)

COUNTRY : USSR
CATEGORY : Meadow Cultivation. L

ABS. JOUR. : RZhBiol., No. 23, 1958, No. 104567

AUTHOR : Bogdanov, V. M.
INST. : The North Ossetian Agricultural Institute
TITLE : On the Influence of Cattle Grazing on the Vegetation of Mountain Meadows of Central Caucasus (The North Ossetian Autonomous SSR).
ORIG. PUB. : Tr. Sev.-Osetinsk. s.-kh. in-ta, 1957, .9, 101-108

ABSTRACT : The influence of grazing on the vegetation of the meadows in the mountain region of the North Ossetian Autonomous SSR has been studied for a number of years. The studies encompassed the meadowlands of the sub-alpine belt, of the lower mountain belt and areas of the so-called "rain shadow". 4 gradations of the changes in the herbage in relation to the intensity of grazing have been established. Information is cited characterizing the quantitative changes in the herbage of different belts under the influence of grazing.--B. K. Flerov

Card: 1/1

BOGDANOV, V.K., Doc Bio Sci— (diss) "Biological methods of raising the quality of butter." Mos, 1958. 36 pp (Mos Tech Inst of Meat and Dairy Industry), 110 copes (KL,46-58, 139)

BOGDANOV, V.M., doktor tekhn.nauk

Lactic acid microflora of milk and its sources. Trudy VNIMI [Mol.] no.20:3-24 '59. (MIRA 13:10)
(Milk--Bacteriology) (Lactic acid bacteria)

BOGDANOV, V.M., doktor tekhn.nauk

Lactic acid microflora of milk and dairy products from different climatic zones. Trudy VNIMI [Mol.] no.20:25-39 '59. (MIRA 13:10)

(Milk--Bacteriology) (Dairy products--Bacteriology)
(Lactic acid bacteria)

BOGDANOV, V.M., doktor tekhn.nauk; PYATNITSYNA, I.N., mladshiy nauchnyy sotrudnik

Isolation of pure cultures for the production of kefir. Trudy VNIMI [Mol.] no.20:40-51 '59. (MIRA 13:10)
(Kefir) (Bacteriology--Cultures and culture media)

BOGDANOV, V.M.

"Biology of lactic acid bacteria" by E.I.Kvasnikov. Reviewed by E.M.Bogdanov. Mikrobiologiia 30 no.2:364-367 Mr-Ap '61. (MIRA 14:6)

(LACTIC ACID BACTERIA) (KVASNIKOV, E.I.)

BOGDANOV, Vyacheslav Mikhaylovich, prof.; KOROLEVA, A.I., retsenzent; BAKAREVA, A.I., retsenzent; TKAL', T.K., retsenzent; SUIMA, V.A., retsenzent; KOROLEVA, N.S., retsenzent; CHERKASOVA, M.P., red.; ZARSHCHIKOVA, L.N., tekhn. red.

[Microbiology of milk and milk products]Mikrobiologiia moloka i molochnykh produktov. 4 izd., perer. i dop. Moskva, Pishchepromizdat, 1962. 307 p. (MIRA 15:12)

1. Prepodavateli Khar'kovskogo tekhnikuma molochnoy promyshlennosti (for Koroleva, Bakareva, Tkal', Suima). 2. Starshiy mikrobiolog Moskovskogo molochnogo kombinata (for Koroleva, N.S.).
(Dairy bacteriology)

BOGDANOV, V.M., prof.; AREF'YEVA, V.S., otv. red.

[New developments in the microbiology of milk and dairy products] Novoe v mikrobiologii moloka i molochnykh produktov. Moskva, 1962. 24 p. (MIRA 17:5)

1. Moscow. TSentral'nyy institut nauchno-tekhnicheskoy informatsii pishchevoy promyshlennosti.

BOGDANOV, V.M.; YAKUSHEV, V.V.; GRUDZINSKAYA, E.Ye.

[Enrichment of dairy products by the addition of vitamin B_{12}] Obogashchenie molochnykh produktov vitaminom B_{12}. Moskva, TSentr. in-t nauchno-tekhn. informatsii pishchevoi promyshl., 1963. 14 p. (MIRA 17:7)

KOTOV, P.F., kand. sel'khoz. nauk, nauchn.sotr.; KOMMODOV, V.V., kand. sel'khoz. nauk, nauchn. sotr.; OVCHINNIKOV, I.A.; NENAROKOV, M.I.; BOGDANOV, V.M., prof.; KONDAKOV, N.A., kand. sel'khoz. nauk; BOKYLEV, V.S., kand. sel'khoz. nauk; ITUNINA, R.G., red.

[Improvement of natural pastures on slopes] Uluchshenie estestvennykh pastbishch na sklonakh. Voronezh, TSentral'no-Chernozemnoe knizhnoe izd-vo, 1964. 85 p. (MIRA 18:1)

1. Institut sel'skogo khozyaystva TSentral'no-Chernozemnoy polosy im. V.V.Dokuchayeva (for Kotov, Kommodov). 2. Nauchnyy rukovoditel' Pavlovskogo opytnogo lugovogo polya (for Nenarodov). 3. Zaveduyushchiy opornym punktom Instituta sel'skogo khozyaystva TSentral'no-Chernozemnoy polosy im. V.V.Dokuchayeva v kolkhoze "Rassvet" Ostrogozhskogo rayona Voronezhskoy oblasti (for Ovchinnikov). 4. Kurskiy Sel'skokhozyaystvennyy institut (for Bogdanov).

DUDENKOV, Arkadiy Yakovlevich; KIVENKO, S.F., inzh., retsenzent;
BOGDANOV, V.M., doktor tekhn. nauk, retsenzent;
BOGATAYA, L.M., red.

[Receiving and processing milk in primary enterprises]
Priemka i pererabotka moloka na pervichnykh predpriiatiiakh. Izd. 2., ispr. i dop. Moskva, Izd-vo "Pishchevaia promyshlennost'," 1964. 119 p. (MIRA 17:6)

CHERNIKOV, B.P.; BOGDANOV, V.M.; PUGACHEV, A.N.

Machines for the placement of mineral fertilizers. Trakt. i sel'khozmash. no.6:39-40 Je '65. (MIRA 18:7)

1. TSentral'naya mashinoispytatel'naya stantsiya.

LITVINOV, M.A., kand. tekhn. nauk; YANISHEVSKIY, F.V., kand. sel'-khoz. nauk; TIKHONCHUK, Yu.N., kand. ekon. nauk; CHERNIKOV, B.P., inzh.; BOGDANOV, V.M., inzh.; CHICHEVA, L.I., red.

[Mechanization of the placement of mineral fertilizers] Mekhanizatsiia vneseniia mineral'nykh udobrenii. Moskva, Kolos, 1965. 173 p. (MIRA 18:5)

BOGDANOV, V. M.

Shtampovka detalei po elementam v melkoseriinom proizvodstve [Stamping component parts in small scale production]. Leningrad, Mashgiz, 1952. 116 p.

SO: Monthly List of Russian Accessions, Vol 6 No 6 September 1953

BOGDANOV, V.M.; YAKOVLEV, A.G.

Multi-roller milling. Stan. i instr. 24 no.5:33 My '53. (MLRA 6:6)
(Milling machines)

BOGDANOV, V.M.; YAKOVLEV, A.G.

Universal jig for drilling holes. Stan. i instr. 24 no.6:35 Je '53.
(MLRA 6:7)
(Jigs)

BOGDANOV, V.M.

137-1958-3-5061

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 3, p 86 (USSR)

AUTHOR: Bogdanov, V. M.

TITLE: Cold Forging of Products in Small-scale and Experimental Production (Kholodnaya shtampovka detaley v usloviyakh melkoseriynogo i opytnogo proizvodstva)

PERIODICAL: V sb.:Kuznechno-shtampovochn. proiz-vo. Leningrad, Lenizdat, 1957, pp 152-164

ABSTRACT: A report on the steps undertaken by Leningrad plants toward the adaptation of cold stamping of single parts by means of universal dies; this procedure increased the flexibility of production, simplified the keeping of technological records, permitted the stamping of products without preliminary technological preparation, eliminated additional expenses connected with dimensional changes in the products, reduced expenditures, and effected a 90-95 percent reduction in the manufacturing costs of small-scale production as compared with the cost of producing the parts in special dies.

Ye. L.

Card 1/1

Bogdanov, V.M.

PHASE I BOOK EXPLOITATION 670

Bogdanov, Viktor Mikhaylovich

Kontaktornoye upravleniye elektroprivodami prokatnykh stanov (Contactor Control of Rolling Mill Electric Drives) Moscow, Metallurgizdat, 1958. 228 p. 5,200 copies printed.

Ed.: Antrushin, B. D.; Ed. of Publishing House: Lanovskaya, M. R.; Tech. Ed.: Evenson, I. M.

PURPOSE: This monograph is addressed to designers and specialists in the operation of rolling mill electrical equipment. It can be used also by those interested in studying the electrical equipment of industrial enterprises.

COVERAGE: The book discusses the general design principles of systems of contactor control of rolling mill electric drives. System units, control systems for electric motors and electromagnets, special control system units, and the design of control stations are also treated. The development of relay-contactor control of rolling mill electric drives is reviewed. It is pointed out that 90 to 95 percent of all rolling mills in the Soviet Union have this type of control. It is noted that the problem of relay-contactor control of rolling mill electric drives has not been given due attention in the technical literature.

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This book attempts to fill this gap. The material for the book was supplied by "Tyazhpromelektroproyekt" (State Design and Planning Institute for the Heavy Electrical Industry), by the factories of the electrical equipment industry and by the Central Design Bureau of "Elektroprivod." The book discusses the design and operation of contactor control systems for d-c motors with compound and parallel excitation as well as induction motors, fed from relatively low (up to 500 v), constant-voltage networks. It also discusses systems of electromagnet control. Main attention is given to an exposition of the general principles of contactor control system design. The author discusses not only rolling mill drives, but also electric drives of pumps and ventilators and other similar mechanisms. The author has assumed that the reader is familiar with the principles of dc and induction motors, in particular with their mechanical characteristics. The terminology used in the book is borrowed from GOST 2774-44 and the conventional graphical symbols from GOST 7624-55. The author thanks Engineer V.F. Grzhimalo and Candidate of Technical Sciences, G.P. Khalizev for their helpful suggestions in the preparation of the book, and the editor, Engineer B.D. Antrushin. There are 29 Soviet references (including 2 translations).

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Contactor Control of Rolling Mill Electric Drives 670

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AVAILABLE: Library of Congress

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JP/mas
10-16-58

Bogdanov, V.M.

PHASE I BOOK EXPLOITATION SOV/3857

Moscow. Dom nauchno-tekhnicheskoy propagandy imeni F. E. Dzerzhinskogo

Vysokoproizvoditel'naya tekhnologicheskaya osnastka (High-Productivity Auxiliary Processing Equipment) Moscow, Mashgiz, 1960. 174 p. 8,000 copies printed.

Sponsoring Agency: Obshchestvo po rasprostraneniyu politicheskikh i nauchnykh znaniy RSFSR.

Ed. (title page): V. V. Kuz'min; Ed. (inside book): S. L. Martens; Tech. Ed.: L. P. Gordeyeva; Managing Ed. for Literature on Metal-working and Machine-Tool Construction (Mashgiz): V. V. Rzhavinskiy, Engineer.

PURPOSE: This collection of articles is intended for technical personnel engaged in the development of auxiliary equipment for metal processing.

COVERAGE: This collection contains articles dealing with modern machine-tool auxiliary equipment, methods of manufacture, and data on the introduction of such equipment into production. The engineering and economic aspects of the use of standardized auxiliary equipment are also discussed. No personalities are mentioned. References follow each article.

(13)

VASIL'YEV, B.K.; BOGDANOV, V.M.

Standardizing shapes and dimensions of nonferrous ingots.
Standartizatsiia 26 no.5:35-39 My '62. (MIRA 15:7)
(Nonferrous ingots--Standards)

BOGDANOV, V.M., zasl. izobretatel' RSFSR; BOEYSHEV, B.A., inzh., retsenzent; SVERDLOV, M.I., kand. tekhn. nauk, red.; VARKOVETSKAYA, A.I., red.izd-va; PETERSON, M.M., tekhn. red.; BARDINA, A.A., tekhn. red.

[Sectional die-stamping of parts in short-scale production] Shtampovka detalei po elementam v melkoseriinom proizvodstve. Izd.2., perer. i dop. Moskva, Mashgiz, 1963. 186 p. (MIRA 16:8)

(Sheetmetal work)

BOGDANOV, V.M.

Succession and the age of intrusive complexes in the Temirskiy region and in the surroundings of Lake Bulankul' in the southeastern part of the Kuznetsk Alatau. Mat. po geol. i pol.iskop.Kras.kraia no.3:111-116 '62. (MIRA 17:2)

VOLOGDIN, V.P., SHAMOV, A.N., BOGDANOV, V.N.

Induction heating

Induction heating of forgings in the blacksmith shop of the Moscow Light-weight Automobile Plant
Avt. trakt. prom. no. 8, 1952

BOGDANOV, V.N.

Use of induction heating in forge shops. [Izdaniia] LONITOMASH no.30:366-376 '52. (MLRA 8:1)
(Induction heating) (Forging)

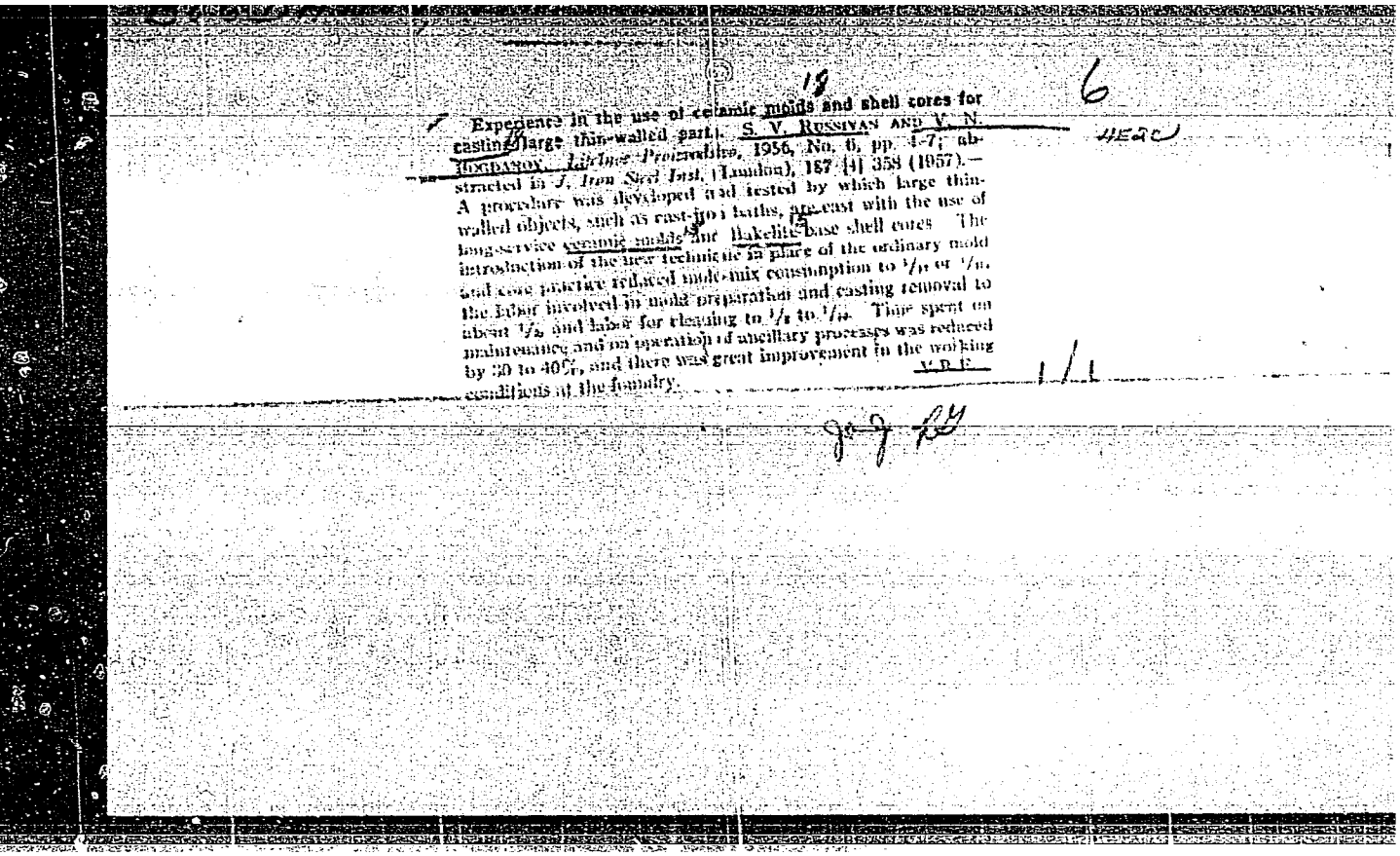
BOGDANOV, V.N.

Toki vysokoi chastoty v kuznechnom proizvodstve (High-frequency current in forging). Pod red. A.A. Fogelia. Moskva, Mashgiz, 1954. 39 p. (B-ka vysokochastotnika-termista, no. 12)

SO: Monthly List of Russian Accessions, Vol 7, No 9, Dec 1954

BOGDANOV, V.N.; RYSKIN, S.Ye.; SHAMOV, A.N.; VOLOGDIN, V.V., inzhener, retsenzent; DONSKOY, A.V., professor, redaktor; VASIL'YEVA, V.P., redaktor izdatel'stva; SOKOLOVA,L.V., tekhnicheskiy redaktor

[Induction heating in forging] Induktsionnyi nagrev v kuznechnom proizvodstve. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1956. 198 p. (MLRA 9:8)
(Induction heating) (Forging)



Experience in the use of ceramic molds and shell cores for casting large thin-walled parts. S. V. Russman and V. N. Bogdanov. *Liteinoe Proizvodstvo*, 1956, No. 6, pp. 4-7; abstracted in *J. Iron Steel Inst.* (London), 187 [4] 358 (1957).—A procedure was developed and tested by which large thin-walled objects, such as cast-iron baths, are cast with the use of long-service ceramic molds and Bakelite-base shell cores. The introduction of the new technique in place of the ordinary mold and core practice reduced mold-mix consumption to 1/5 or 1/6, the labor involved in mold preparation and casting removal to about 1/3, and labor for cleaning to 1/5 to 1/6. Time spent on maintenance and on operation of ancillary processes was reduced by 30 to 40%, and there was great improvement in the working conditions at the foundry.

BOGDANOV, Valentin Nikolayevich; FOGEL', A.A. kandidat tekhnicheskikh nauk, redaktor; SPITSYN, M.A., kandidat tekhnicheskikh nauk, redaktor; SLUKHOTSKIY, A.Ye., kandidat tekhnicheskikh nauk, redaktor; GLUKHANOV, G.P., kandidat tekhnicheskikh nauk, redaktor; BAMUNER, A.V., inzhener, redaktor; VASIL'YEVA, V.P., redaktor izdatel'stva; DONSKOY, A.V., professor, doktor tekhnicheskikh nauk, retsenzent; SYCHEVA, O.V., tekhnicheskiy redaktor.

[Use of through induction heating in industry] Primenenie skvoznogo induktsionnogo nagreva v promyshelnnosti. Izd.2-oe, ispr. i dop. Pod red. A.A.Fogelia. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1957. 78 p.(Bibliotechka vysokochastotnika-termista, no.12) (MLRA 10:6)

(Induction heating)
(Metals--Heat treatment)

S/112/59/000/013/033/067
A002/A001

Translation from: Referativnyy zhurnal, Elektrotekhnika, 1959, No. 13, p. 125, # 27099

AUTHORS: Bogdanov, V. N., Glukhanov, N. P., Makarova, Ye. D.

TITLE: Surface Hardening of Gears With Induction Heating by Currents of Two Frequencies

PERIODICAL: V sb.: Prom. primeneniye tokov vysokoy chastoty. Riga, 1957, pp. 7-18

TEXT: The authors enumerate methods of induction hardening of gears and indicate peculiarities of their heating. A gear model is used for discussing the physics of heating "along the outline" (po obvodu). The authors give analytical dependences of the optimum hardening frequency on the module and formulae for determining heating time and required power. They describe a two-frequency heating circuit operating on frequencies of 1,000 and 25,000 cps, a design of a single-loop inductor for these purposes, a circuit of an electric device, and the operating conditions for processing gears of module 4.25. The

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A002/A001

Surface Hardening of Gears With Induction Heating by Currents of Two Frequencies

control of the heating process has been automated. The current sources are: a 350-kw rotary converter and a tube generator with four 100-kw tubes. The design of an improved inductor and the circuit for its connection are given, which make it possible to carry out a simultaneous heating by currents of two frequencies. The inductor consists of four semi-rings. Each of them is a bridge arm into whose diagonal a feed source is switched. The inductor will harden 2 gears simultaneously. The control of the heating has been automated. It is possible to regulate the moments of switching on or off the h-f and l-f currents. There are 6 references.

L. A. G.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

SOV/137-58-11-22881

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 150 (USSR)

AUTHORS: Glukhanov, N. P., Bogdanov, V. N.

TITLE: Welding of Metals With High-frequency Heating (Svarka metallov pri vysokochastotnom nagreve)

PERIODICAL: V sb.: Prom. primeneniye tokov vysokoy chastoty. Riga, 1957, pp 39-46

ABSTRACT: The authors examine certain techniques and methods of welding of metals in conjunction with high-frequency heating (HFH). The systems of heating of metal sheets during welding using either induction or a method whereby an HF current passes directly through the component are described. Advantages and drawbacks of these methods are analyzed. The employment of these HFH methods makes it possible to perform butt welding of pipes, angle irons, T-beams, I-beams, etc. Methods of HFH of long, large-diameter pipes are described together with systems employed for butt welding of components. Examples of employment of HFH in welding of metals are given. Machines for butt and seam welding of pipes are described, their operation is explained, and examples of the

Welding of Metals With High-frequency Heating

computation of the inductor and the frequency of the current are given. The heating time for a pipe with a wall thickness of 8-10 mm amounts to 13-15 sec per linear meter.

B. K.

122-1-17/34

AUTHOR: Bogdanov, V.N., Engineer,

TITLE: The use of induction heating in spring production (Primeneniye induktsionnogo nagreva v ressornom proizvodstve)

PERIODICAL: "Vestnik Mashinstroyeniya" (Engineering Journal), 1957, No.1, pp. 64 - 67 (U.S.S.R.)

ABSTRACT: Research work (carried out by the High Frequency Current Research Institute) leading to the development of a high-frequency induction heating installation for the heat treatment of vehicle suspension leaf springs is reported. The best inductor is a coil wound around the plan-form of the leaf (65 to 66 mm by 200 to 1 500 mm) of a depth depending on the thickness of the stack (individual thickness 5 to 10 mm). The width determines the choice of the frequency of the heating current. Normal range of dimensions favours 1 000 - 8 000 c.p.s. which ensures high output and efficient installations. Pre-heating at industrial frequency up to the Curie point (700 C) is advisable. Laboratory treated spring leaves have shown the same endurance strength as currently produced springs. Semi-automatic bending and heat-treatment machines are briefly described, based on the above tests. These machines combine an induction heater and a bending and quenching die. The machine is magazine fed, otherwise it is automatic and processes up to 350

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The use of induction heating in spring production. (Cont.)

leaves per hour. Another machine combines induction heating with automatic bending of the leaf ends into eyelets. The machine processes up to 350 leaves per hour and is fed by two high frequency generators at 8 000 c.p.s.

Card 2/2 There are 3 figures and 1 table.

ASSOCIATION: NII TVCh imeni V.P. Vologdina.

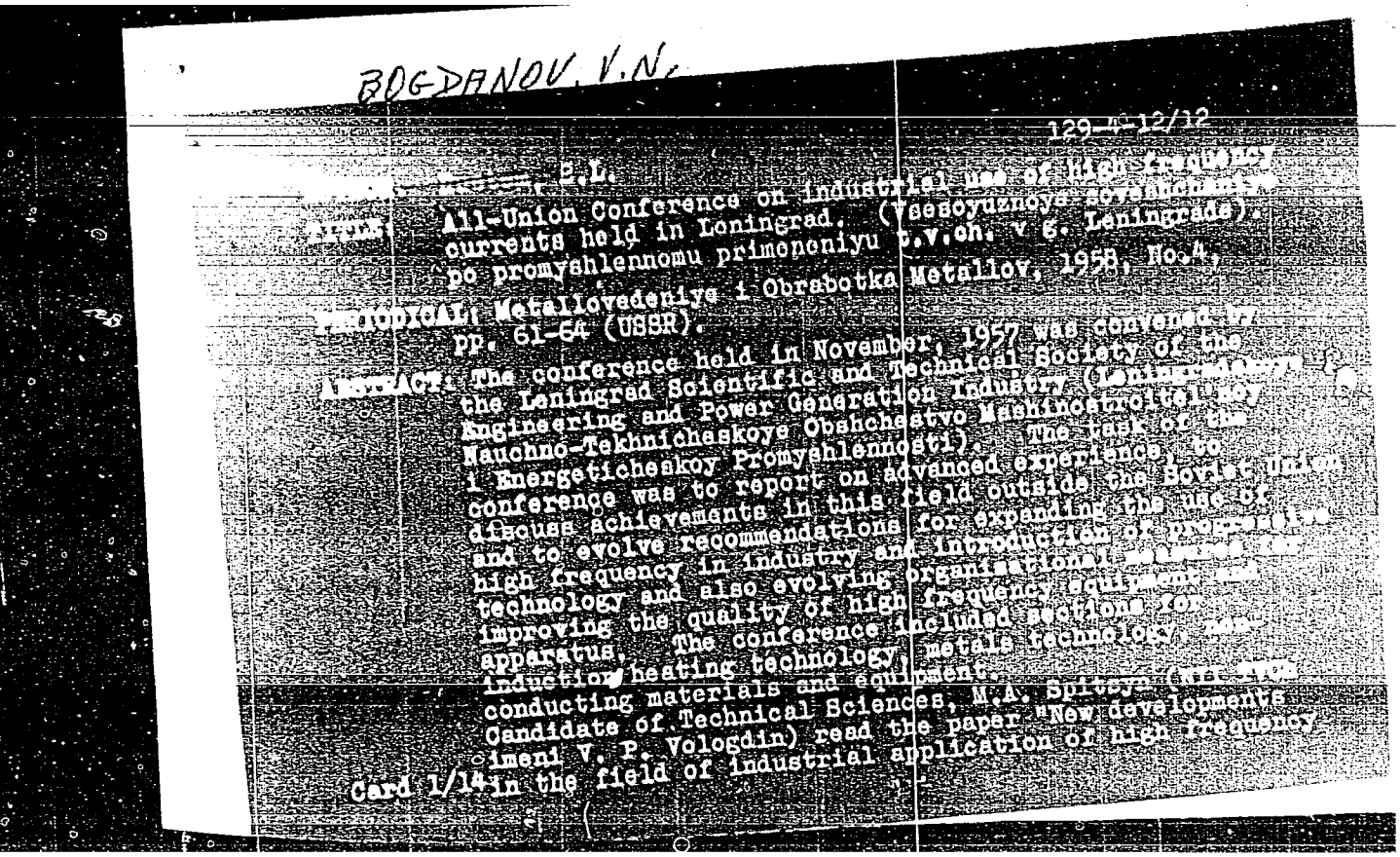
AVAILABLE: Library of Congress

BOGDANOV, V.N., laureat Stalinskoy premii; GLUKHANOV, N.P.; MAKAROVA, Ye.D.

[redacted]

Hardening gears by two-frequency currents. Avt. i trakt. prom. no.5: 38-41 My '57. (MIRA 10:6)

1. Nauchno-issledovatel'skiy institut tokov vysokoy chastoty.
(Gearing) (Metals--Hardening) (Induction heating)



BOGDANOV, V.N.

129-6-12/12

B.L.

All-Union Conference on Industrial Use of High Frequency currents held in Leningrad. (Vsesoyuznoye Soveshchaniye po promyshlennomu primeneniyu t.v.ch. v g. Leningrade).

Metallovedeniye i Obrabotka Metallov, 1958, No.4, pp. 61-64 (USSR).

ABSTRACT: The conference held in November, 1957 was convened by the Leningrad Scientific and Technical Society of the Engineering and Power Generation Industry (Nauchno-Tekhnicheskoye Obshchestvo Mashinostroitel'noy i Energeticheskoy Promyshlennosti). The task of the conference was to report on advanced experience and to discuss achievements in this field outside the Soviet Union and to evolve recommendations for expanding the use of high frequency in industry and introduction of [illegible] technology and also evolving organizational [illegible] improving the quality of high frequency equipment and apparatus. The conference included sections on metals technology, induction heating technology, conducting materials and equipment. [illegible] Candidate of Technical Sciences, M.A. Sokolov (Leningrad imeni V. P. Vologdin) read the paper "New developments in the field of industrial application of high frequency

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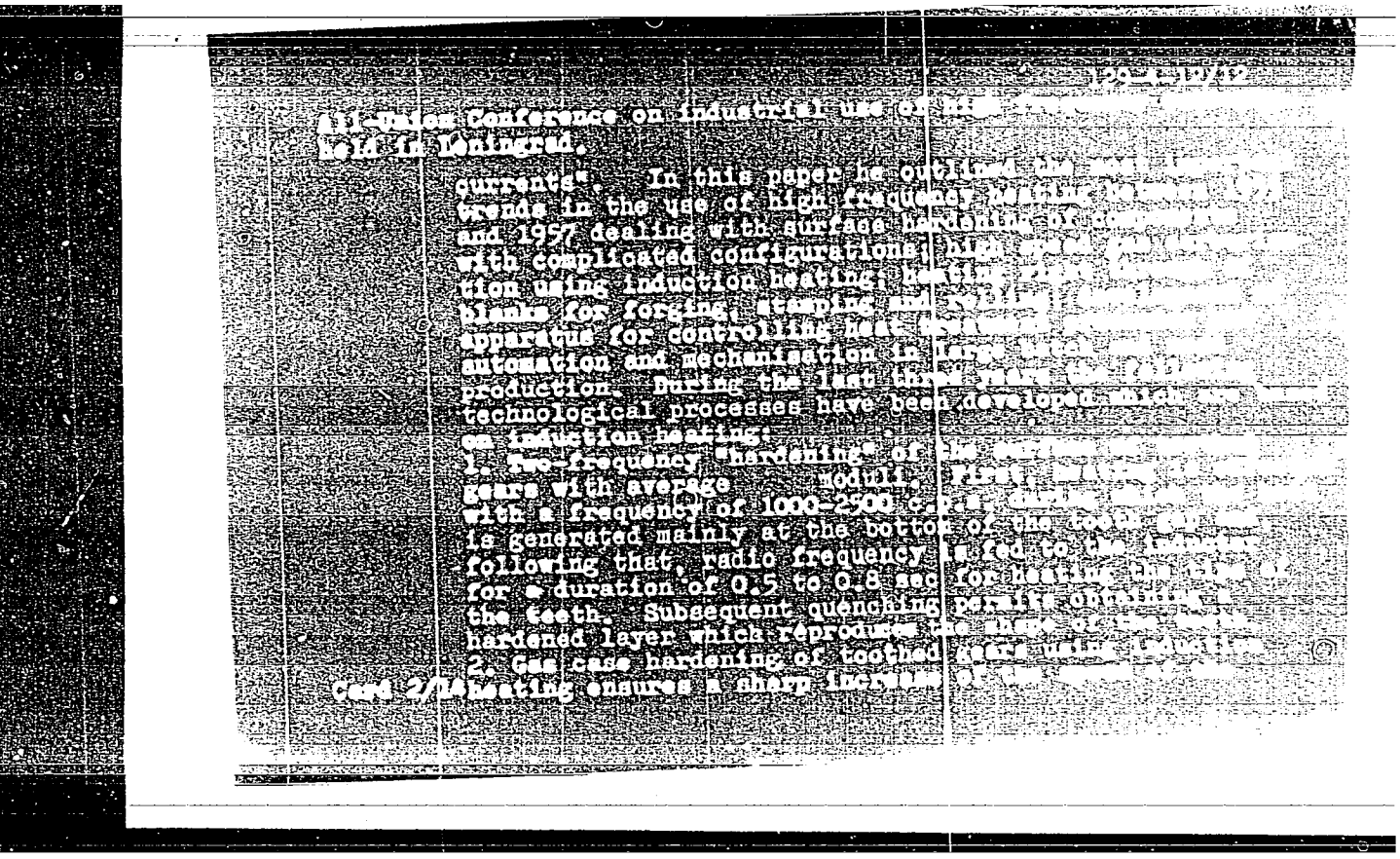

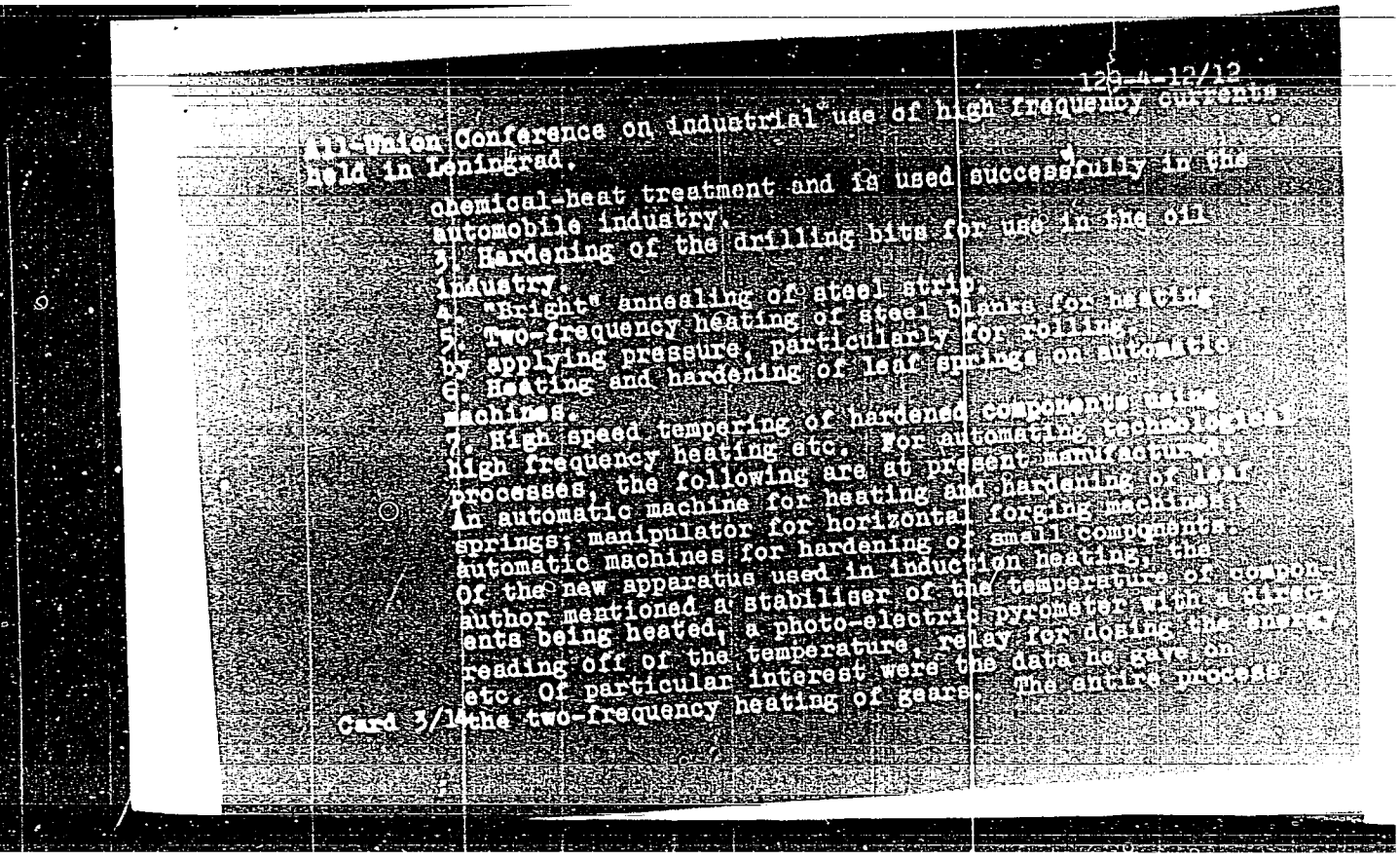

126-4-12/12

...conference on industrial use of high frequency currents held in Leningrad.

...chemical-heat treatment and is used successfully in the automobile industry.

3. Hardening of the drilling bits for use in the oil industry.

4. "Bright" annealing of steel strip.

5. Two-frequency heating of steel blanks for hot work by applying pressure, particularly for rolling.

6. Heating and hardening of leaf springs on automatic machines.

7. High speed tempering of hardened components ... high frequency heating etc. For automating ... processes, the following are at present manufactured ... automatic machine for heating and hardening of ... springs; manipulator for horizontal forging machines; automatic machines for hardening of small components. Of the new apparatus used in induction heating, the author mentioned a stabiliser of the temperature of components being heated, a photo-electric pyrometer with a ... reading off of the temperature, relay for dosing the ... etc. Of particular interest were the data he gave on the two-frequency heating of gears.

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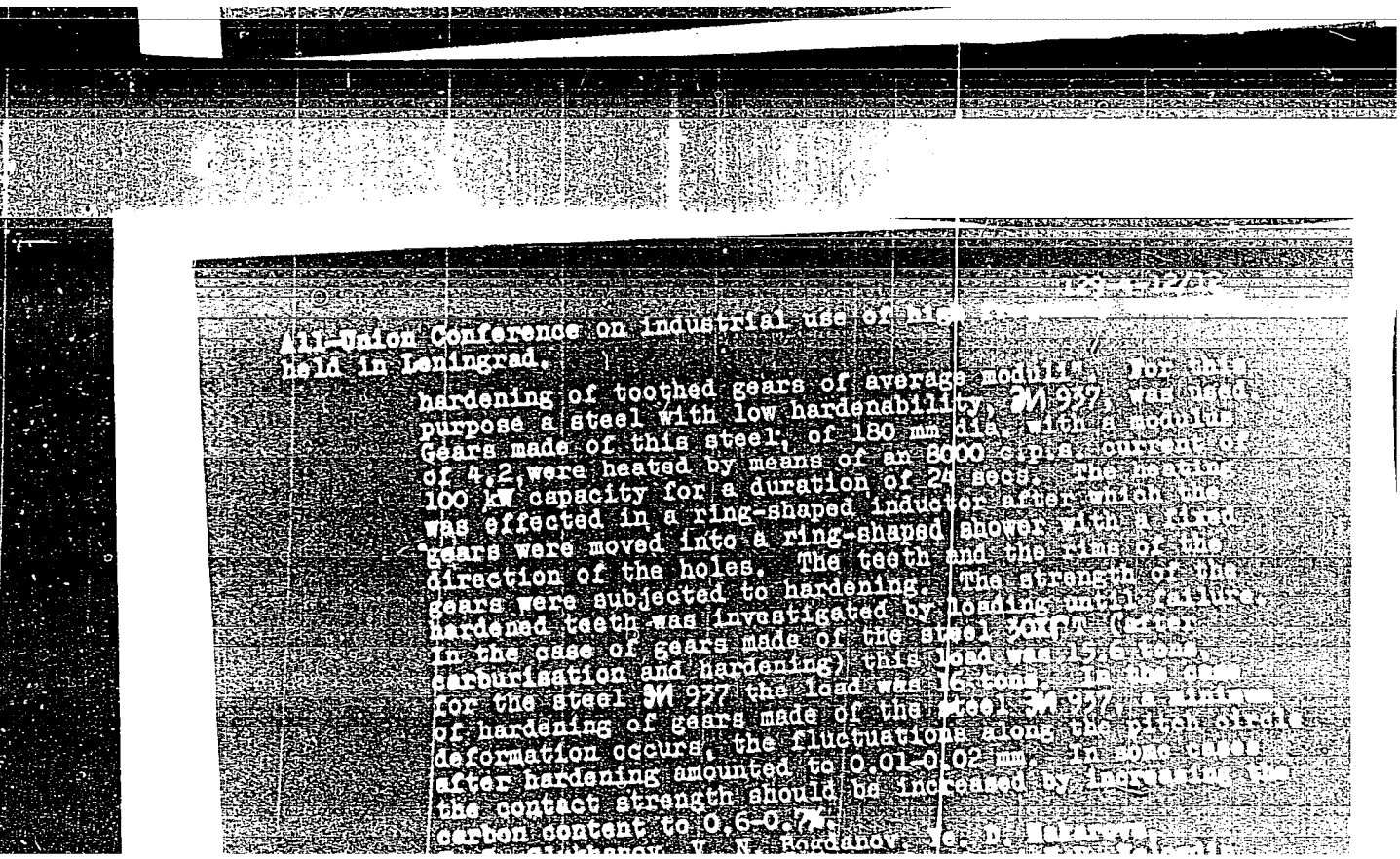
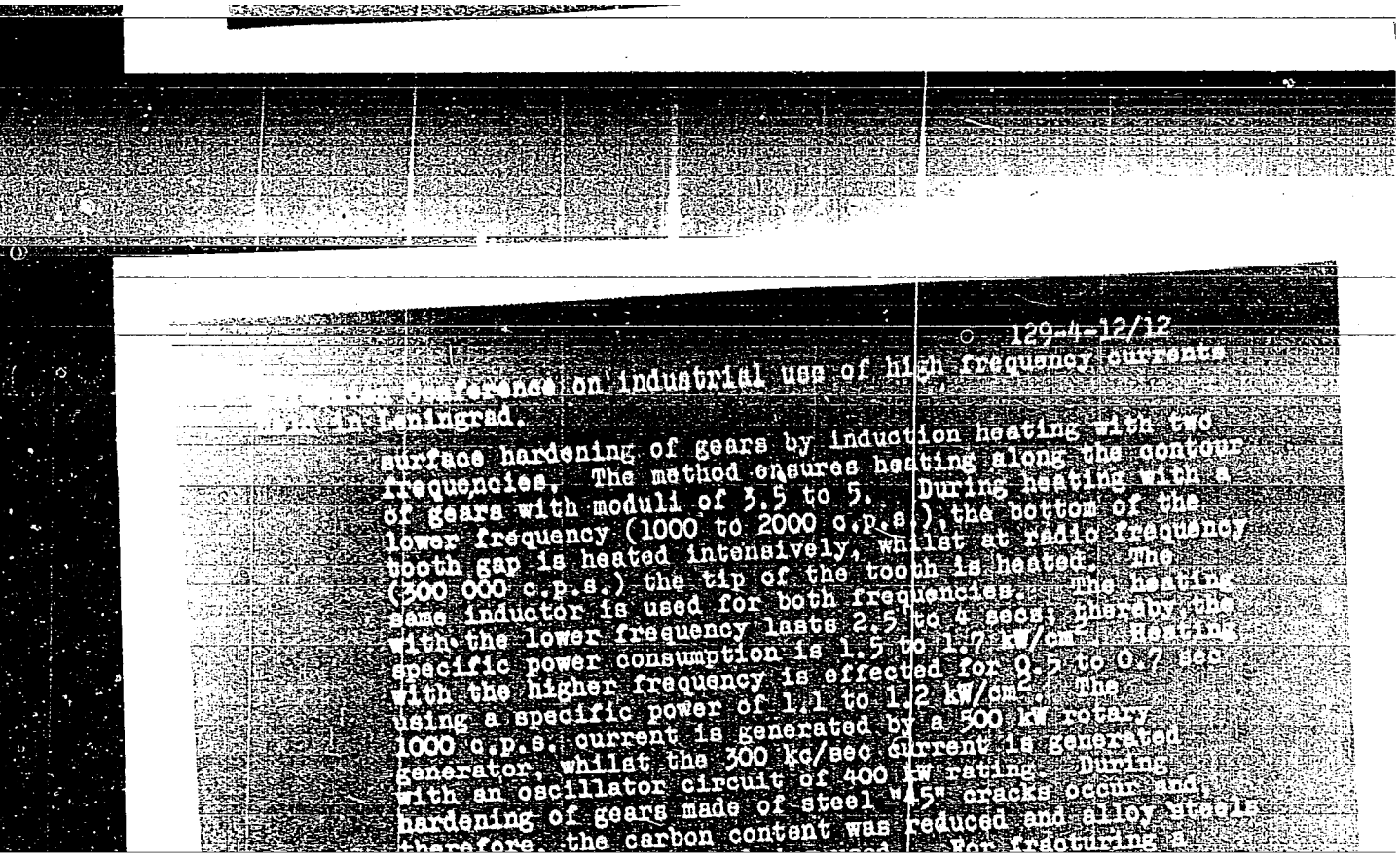
...Conference on industrial use of high frequency currents ... in Leningrad.

"valleys" form at spacings equalling the half-wave of the supersonic oscillations generated by the high frequency. In non-magnetic steels no such phenomenon was observed. It was also observed that with increasing number of cycles, heating-cooling, the diameter of the cylindrical specimens in the heating zone increases, whilst the height of the specimens decreases. Furthermore, the author reported on the method of G. V. Uzhik which enables increasing the static strength up to 300%; this is achieved by using h.f. heating of a thin layer in the zone of stress concentrations at the surface of steel components. Thus, for instance, cylindrical specimens made of unnotched 40X steels with a stress concentrator in the form of a notch will be 2.5 times stronger if the notch zone is tempered by using h.f. heating. M. G. Lozinskiy considered that use of the method of strengthening applying h.f. ... of the stress concentration zones ... more rational ...



All-Union Conference on industrial use of hi
held in Leningrad.

hardening of toothed gears of average modul
purpose a steel with low hardenability, 3M 937, was
Gears made of this steel, of 180 mm dia. with a modul
of 4.2, were heated by means of an 8000 cps. induc
100 kW capacity for a duration of 24 secs. The heatin
was effected in a ring-shaped inductor under which the
gears were moved into a ring-shaped shower with a
direction of the holes. The teeth and the rims of the
gears were subjected to hardening. The strength of
hardened teeth was investigated by loading until
in the case of gears made of the steel 3M 937 (
carburization and hardening) this load was
for the steel 3M 937 the load was
of hardening of gears made of the
deformation occurs, the fluctuations along the
after hardening amounted to 0.01-0.02 mm
the contact strength should be increased by
carbon content to 0.6-0.7%.



129-4-12/12

...ference on industrial use of high frequency currents
...ningrad.

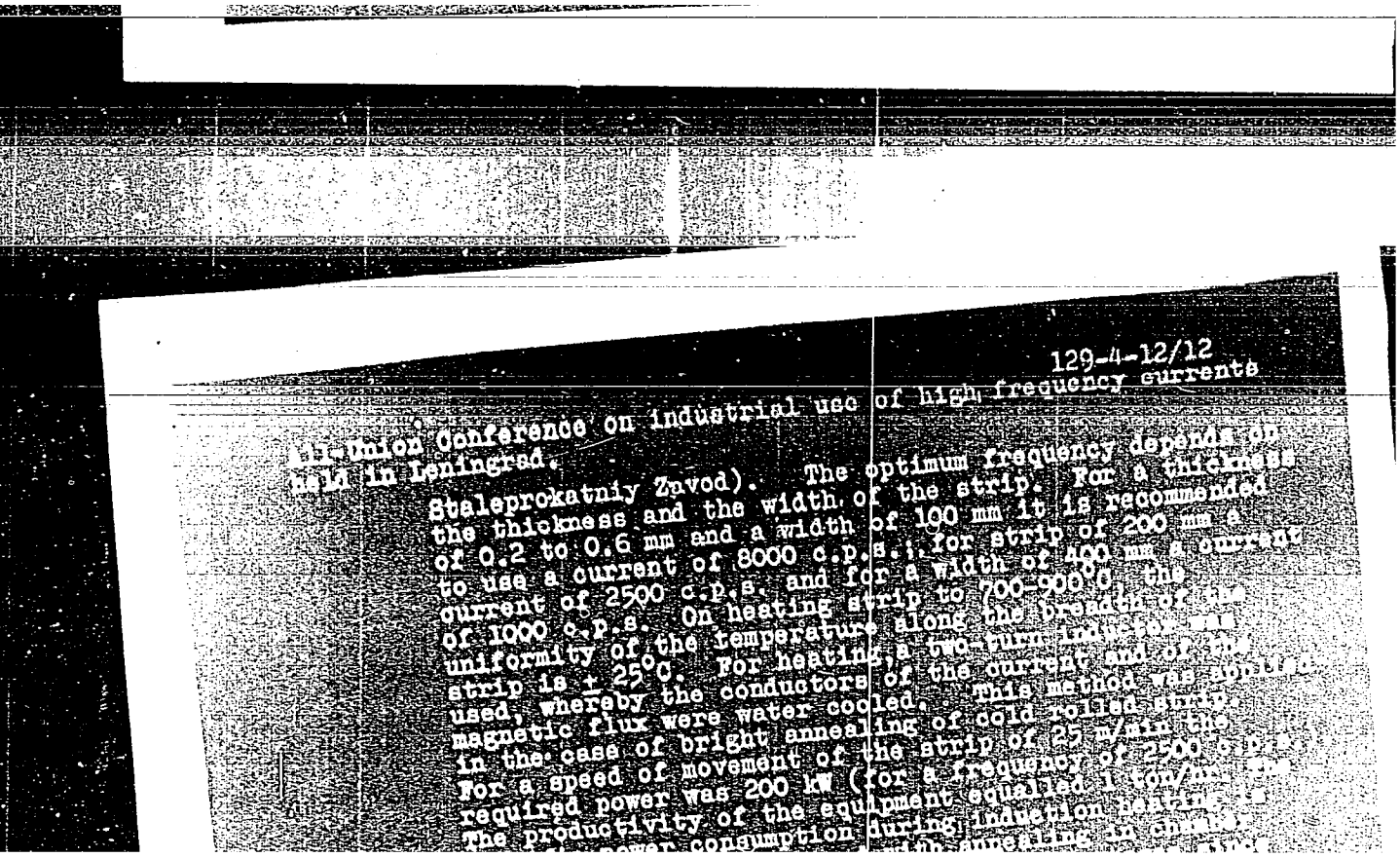
surface hardening of gears by induction heating with two
frequencies. The method ensures heating along the contour
of gears with moduli of 3,5 to 5. During heating with a
lower frequency (1000 to 2000 c.p.s.) the bottom of the
tooth gap is heated intensively, whilst at radio frequency
(300 000 c.p.s.) the tip of the tooth is heated. The heating
same inductor is used for both frequencies. Hardening
with the lower frequency lasts 2,5 to 4 secs; hardening
specific power consumption is 1.5 to 1.7 kW/cm². Heating
with the higher frequency is effected for 0,5 to 0,7 secs
using a specific power of 1,1 to 1,2 kW/cm². The
1000 c.p.s. current is generated by a 500 kW rotary
generator, whilst the 300 kc/sec current is generated
with an oscillator circuit of 400 kW rating. During
hardening of gears made of steel with 1,5% cracks occur and
therefore the carbon content was reduced and alloy steels
for machining a

All-Union Conference on industrial use of high frequency [illegible]
held in Leningrad.

two-frequency hardening were down [illegible]
gears produced according to the old technolo[illegible]
in the further tests the steels 65[illegible]
were used.

The paper of N. M. Rodigin, Ural Branch of [illegible]
(Ural'skiy Filial AN SSSR) was devoted to [illegible]
induction heating of steel strip [illegible]
consists in the fact that the electro[illegible]
produced by an alternating current is direct[illegible]
to its surface and not in the longitudinal direction of the
strip. This enables using economical sources of current of
elevated frequency, namely, rotary generators. [illegible]
temperature distribution along the width of the strip is
achieved by an appropriate configuration of [illegible]
path and by an air gap between [illegible]
be used for annealing cold rolled strip, [illegible]
for preheating of strip during rolling, [illegible]
deposition of coatings, etc.

V. I. Bogdanov and V. [illegible] Reysadovich [illegible]



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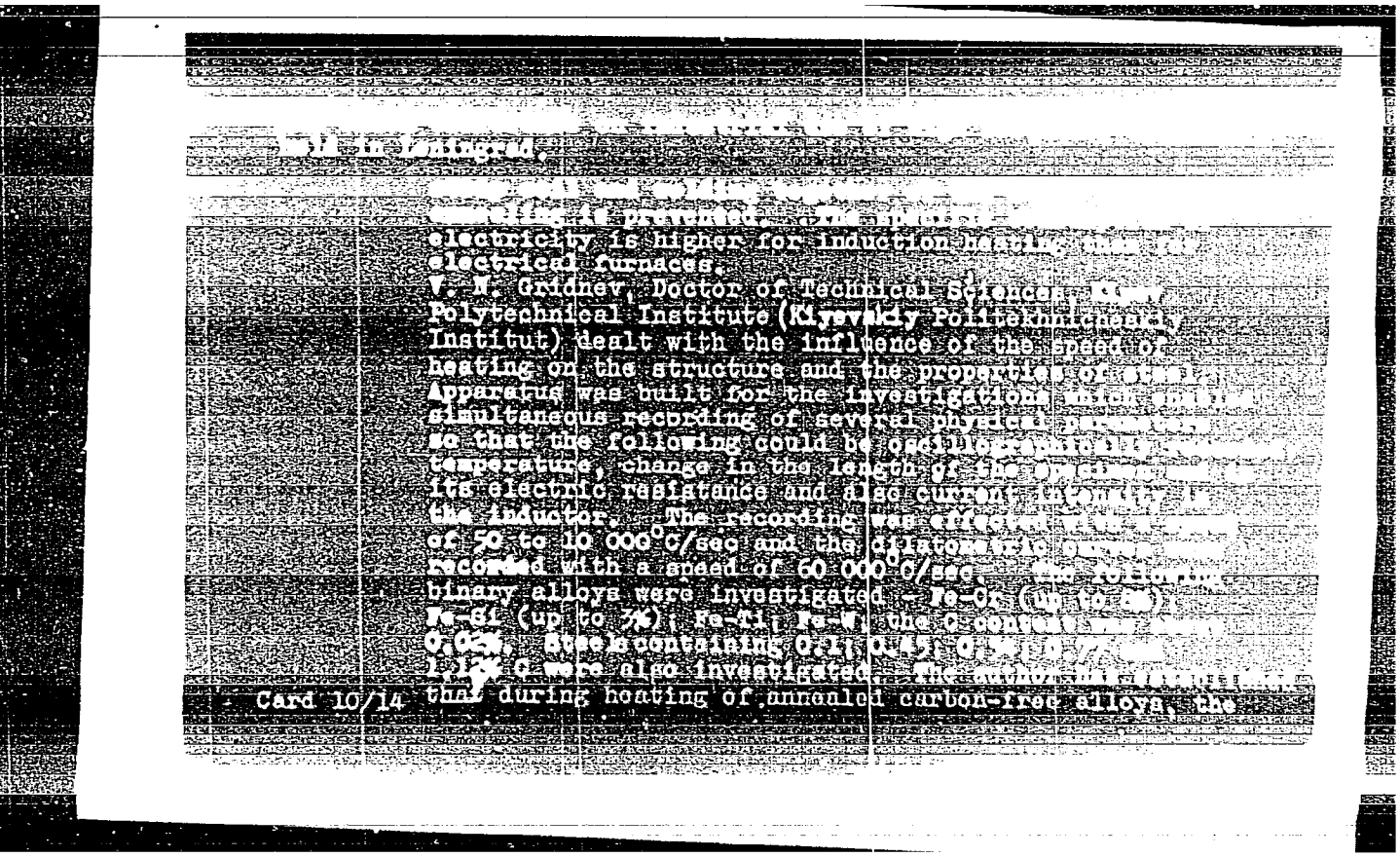
of high frequency currents

...Union Conference on industrial use ...
...in Leningrad.

Staleprokatniy Zavod). The optimum frequency depends on the thickness and the width of the strip. For a thickness of 0.2 to 0.6 mm and a width of 100 mm it is recommended to use a current of 8000 c.p.s.; for strip of 200 mm a current of 2500 c.p.s. and for a width of 400 mm a current of 1000 c.p.s. On heating strip to 700-900° the uniformity of the temperature along the breadth of strip is ± 25°C. For heating, a two-turn inductor is used, whereby the conductors of the current and of the magnetic flux were water cooled. This method is most in the case of bright annealing of cold rolled strip. For a speed of movement of the strip of 25 m/min and required power was 200 kW (for a frequency of 2500 c.p.s.). The productivity of the equipment equals ... tons/hr. ... consumption during induction heating ...



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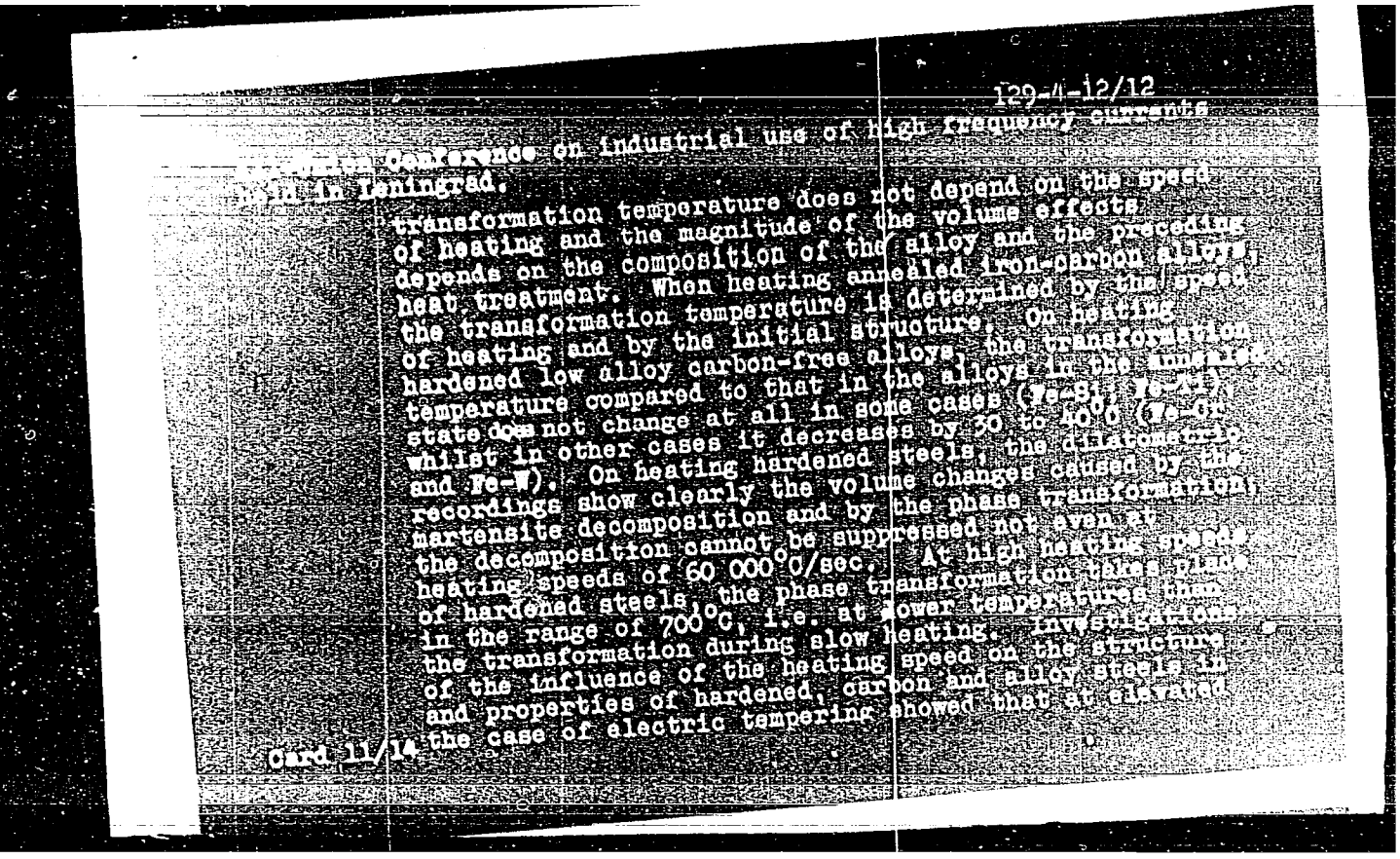

129-4-12/12

...conference on industrial use of high frequency currents
...in Leningrad.

transformation temperature does not depend on the speed of heating and the magnitude of the volume effects depends on the composition of the alloy and the preceding heat treatment. When heating annealed iron-carbon alloys the transformation temperature is determined by the speed of heating and by the initial structure. On heating hardened low alloy carbon-free alloys the transformation temperature compared to that in the alloys in the annealed state does not change at all in some cases (Fe-Si, Fe-Ni) whilst in other cases it decreases by 30 to 4000 (Fe-Mn and Fe-W). On heating hardened steels the dilatometric recordings show clearly the volume changes caused by the martensite decomposition and by the phase transformation; the decomposition cannot be suppressed not even by heating speeds of 60 000°C/sec. At high heating speeds of hardened steels the phase transformation takes place in the range of 700°C, i.e. at a lower temperature than the transformation during slow heating. Investigations of the influence of the heating speed on the structure and properties of hardened, carbon and alloy steels in the case of electric tempering showed that at elevated

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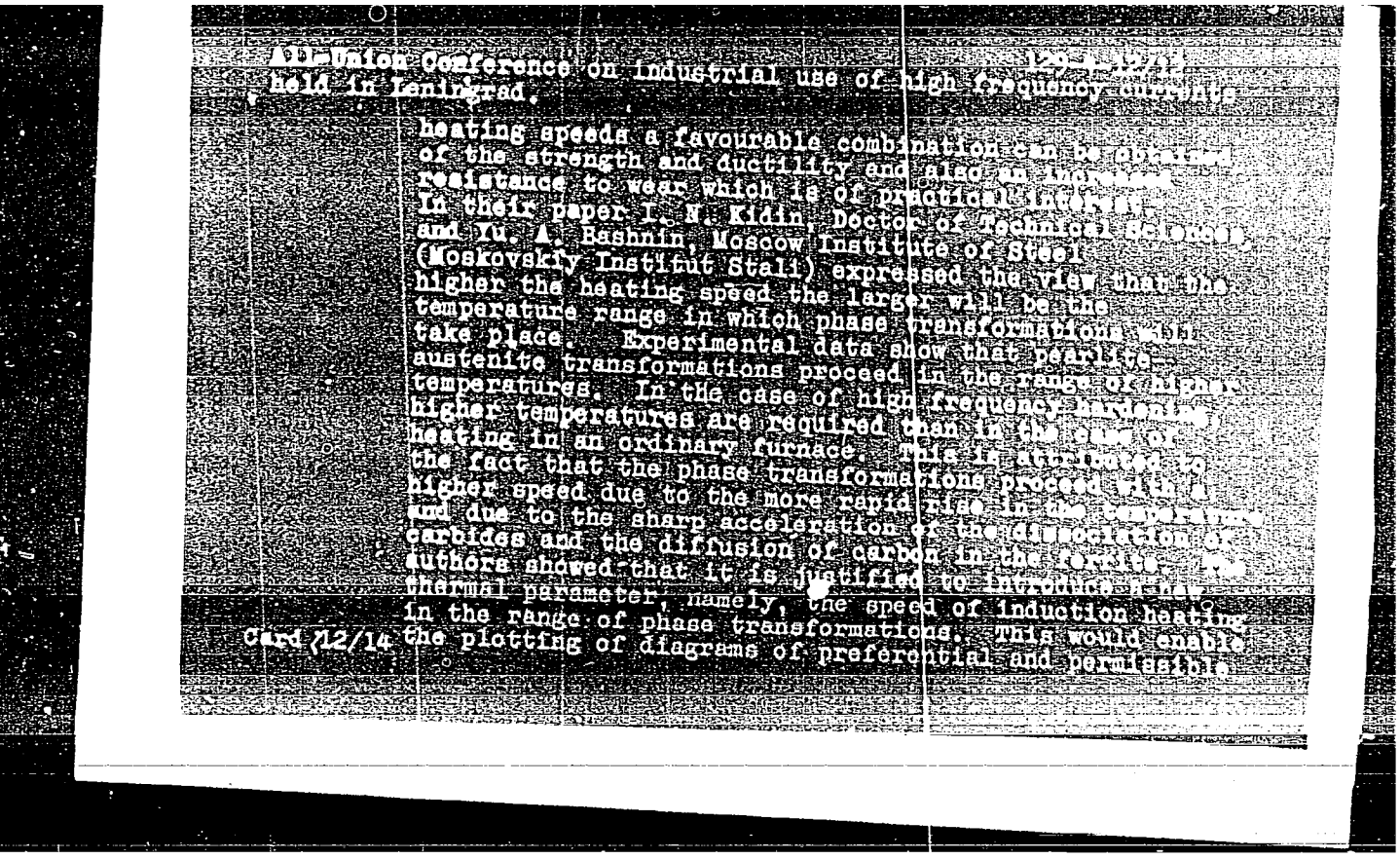

All-Union Conference on Industrial use of high frequency [illegible]
held in Leningrad.

heating speeds a favourable combination can be obtained
of the strength and ductility and also in the
resistance to wear which is of practical
In their paper I. N. Kidin, Doctor of Technical Sciences,
and Yu. A. Bashnin, Moscow Institute of Steel
(Moskovskiy Institut Stali) expressed the view that the
higher the heating speed the larger will be the
temperature range in which phase transformations
take place. Experimental data show that pearlite-
austenite transformations proceed in the range of higher
temperatures. In the case of high frequency heating
higher temperatures are required than in the case of
heating in an ordinary furnace. This is explained by
the fact that the phase transformations proceed at a
higher speed due to the more rapid rise in the temperature
and due to the sharp acceleration of the dissociation of
carbides and the diffusion of carbon in the austenite.
Authors showed that it is justified to introduce a new
thermal parameter, namely, the speed of induction heating
in the range of phase transformations. This would enable
the plotting of diagrams of preferential and pernicious

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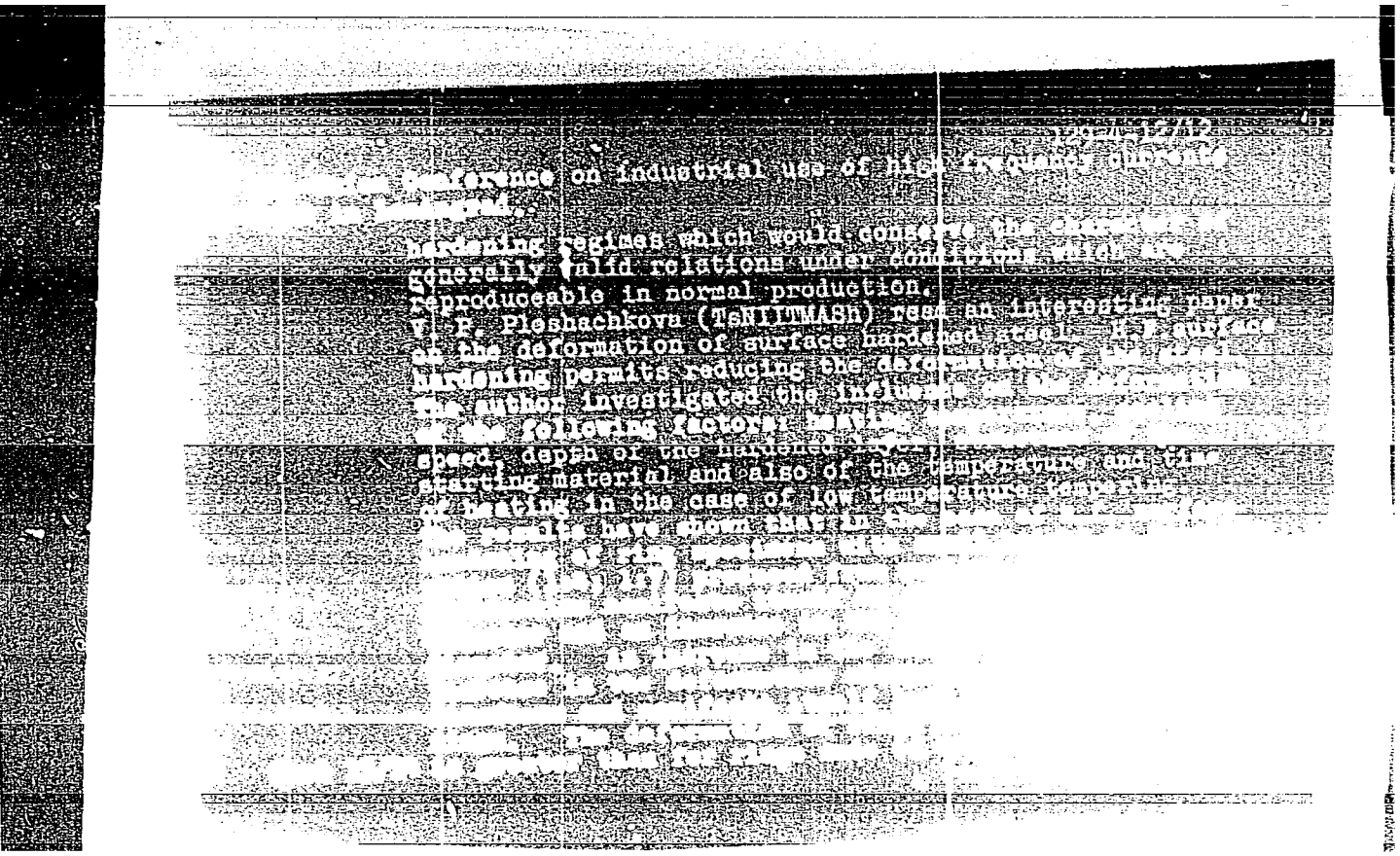

SOV/137-59-1-1785

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 1, p 235 (USSR)

AUTHOR: Bogdanov, V. N.

TITLE: Automatization of Operations of Bending and Hardening of Spring Leaves (Avtomatizatsiya operatsii gibki i zakalki ressornykh listov)

PERIODICAL: V sb.: Materialy soveshchaniya glavn. metallurgov z-dov i in-tov avtomob. prom-sti. Nr 4. Moscow, 1958, pp 84-86

ABSTRACT: The operations of "bending-and-hardening" of spring leaves (SL) constitute the most highly energy- and labor-consuming process in the manufacture of springs. The NIITVCh [Scientific Research Institute of High-frequency Technique] developed the design of a semiautomatic bending-hardening machine. The operation of this machine involves the heating of a packet of SLs, preliminary to bending and hardening, with the aid of an induction device surrounding the SL's and having a cross-sectional perimeter which is parallel to the major planes of the SL's. Currents of audio-range frequencies may be employed in the induction device, the heating process being characterized by its high efficiency. Heating of the SL's with a 2500-cps current requires 4-7 seconds (depending on the thickness of the SL's); the consumption

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Automatization of Operations of Bending and Hardening of Spring Leaves

of electrical energy amount to 300 kwh/t in the case of the high-frequency current, and 400 kwh/t in the case of a 50-cps current. These two currents may also be employed as follows: Up to the Curie temperature (700°C), the heating may be accomplished by a 50-cps current, with further heating of the SL's up to the temperatures of tempering performed with the high-frequency current. This procedure will allow a four to five-fold reduction in the capacity of the HF generator and will reduce the consumption of electrical energy by 15-20%. Employing induction heating of the SL's for purposes of tempering is not advisable. The cooling of the SL's is accomplished in water-cooled dies and requires 10 seconds. A machine capable of an output of 350 SL's per hour was built and is undergoing final adjustment at the Gor'kiy Automobile Plant. Since the machine can process only one type of SL at one time, the complete bending-tempering installation will consist of a number of machines corresponding to the number of secondary SL's in a given spring assembly, plus a special machine for bending and hardening of the main SL with its two lugs.

G. L.

BOGDANOV, V.N., kand.tekhn.nauk; KOZUBOV, N.V., inzh.

Stresses due to hydrodynamic forces in the foundations of a dam with a seepage barrier. Nauch.dokl.vys.shkoly; stroi. no.4:83-86 '58. (MIRA 12:7)

1. Rekomendovana kafedroy stroitel'nogo proizvodstva, osnovaniy i fundamentov Leningradskogo instituta inzhenerov vodnogo transporta.
(Foundations) (Dams) (Strains and stresses)

GLUKHANOV, N.P., kand. tekhn. nauk; BOGDANOV, V.N., inzh.; KULZHINSKIY, V.L., inzh..

Longitudinal seam welding of large diameter pipes with high frequency resistance heating. Svar. proizv. no.2:6-8 F '59. (MIRA 12:1)

1.Nauchno-issledovatel'skiy institut tokov vysokoy chastoty.
(Pipe, Steel--Welding)
(Electric welding)
(Induction heating)

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AUTHOR: Bogdanov, V.N., Engineer

TITLE: Practice in Cutting Tubes by Rupture When Using Zonal Induction Heating

PERIODICAL: Stal', 1960, No. 7, pp. 634 - 635

TEXT: A new method has been established for cutting tubes by rupturing them in a zone heated by induction, where the advancing tube is gripped by two clamps, one of which is movable in respect to the other. The rupturing force applied in the direction of the axis must be sufficient for rupture under the given temperature. A small ring of the tube between the two clamps is induction-heated and the tube is ruptured when the force working on the removable clamp exceeds the strength limit of the metal from which the tube is made. Low carbon steels usually used for tubes show the highest plasticity in the 1100°C - 1200°C range, where σ_B = 2.5 - 1.5 kg/mm^2, δ = 55 - 65%, and $\psi \sim 99.8\%$. Thus for such steels the axial force (kg) to rupture the tube must be $P_{ax} = (1.5 \div 2.5)S$, where S = the area of the tube section in mm^2. (Abstractor's note: subscript ax (axial) is translation of the original os). In order to reduce the heating zone, the induction

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Practice in Cutting Tubes by Rupture When Using Zonal Induction Heating

wire must be narrow (6 - 10 mm) and should be surrounded by a magnetic wire made of laminated transformer steel. The frequency applied depends on the tube wall thickness and must ensure a high coefficient of output and heating rate which can be obtained when the following formula is applied: $a = (0.3 \div 0.6)\Delta_{heat.}$ (2), where a = tube wall thickness, $\Delta_{heat.}$ = the penetration depth of the current into steel (cm), heated above the point of magnetic transformation, defined by

$$\Delta_{heat.} = 5030\sqrt{\frac{\rho}{f}} \quad (3),$$

where ρ = specific electrical resistance of steel at 1100 - 1200°C, ohm/cm, f = current frequency, cycle/sec. (Abstractor's note: subscript heat. (heating) is the translation of the original gor (goreniye).) Based on these formulae it is possible to define the wall thicknesses of the tube for which it is advisable to use the USSR standard current frequencies: for 1.5 - 4.0 mm: 8.000 c, for 3 - 7 mm: 2,500 c and for 5 - 10 mm: 1,000 c. When applying the optimum frequency, the rupture takes 1 - 2 sec, (without secondary operation) for wall thicknesses of 1.5 - 5.0 mm, and 2 - 4 sec for walls of 5 - 10 mm thick. GIPROMEZ and the Nauchno-issledovatel'skiy institut tokov vysokoy chastoty (Scientific Research Institute of High Frequency Currents) designed

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a device for rupturing tubes by induction-heating on the 10 - 60 type tube-electrowelding machine. In order to raise the power coefficient in the high frequency electric lines, a stationary condenser battery is used in the proximity of the rupturing device, which starts operating when the end of the advancing tube presses a limit switch triggering the compressed air supply and the pneumatic acceleration cylinder of the device. When the device attains the speed of the tube motion, the clamps are engaged and the rupturing device proceeds together with the tube. Heating is simultaneously switched on and compressed air is supplied into the pneumatic cylinder. After the rupturing, the piston of the pneumatic cylinder switches off the limit switch, thus triggering the releasing of the clamps and reversing the device in the starting position. The generator feeding the inductor has a power of 100 kw at a frequency of 8,000 c which makes it possible to cut tubes with 10 - 76 mm in diameter with walls 1.5 - 4.0 mm thick. There are 2 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut tokov vysokoy chastoty (Scientific Research Institute of High Frequency Currents)

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AUTHORS: Gel'man, A. S., Professor, Doctor of Technical Sciences, Mel'bard, S. N., Bogdanov, V. N., De-Millo, P. G., Grum-Grzhimaylo, I. A., Engineers

TITLE: Pipe Welding by Radio-Frequency Current

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 10, pp. 4-7

TEXT: The welding of up to 6 mm thick pipes by radio-frequency current was first investigated in 1958 at TsNIITMASh. Further studies were performed together with NIITVCh. The following personalities participated in the work: from TsNIITMASh: I. L. Brinberg, Candidate of Technical Sciences; from VNIIMETMASh: V. V. Nosal', Doctor of Technical Sciences, Anisiforov, Candidate of Technical Sciences, N. A. Sarychev, and V. S. Antsiferov, engineers; from NIITVCh: N. P. Glukhanov, Candidate of Technical Sciences. On a laboratory installation (Fig. 2) strips with chamfered edges were drawn by clamping rollers at a required opening angle between the edges to be welded (α). The overlap of the strips was fixed by supporting rollers. Radio frequency current was fed to the edges through sliding contacts. The current was concentrated on the edge

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surface and penetrated to a depth of 0.04 - 0.12 mm. The molten metal was pressed by the rollers thus forming the welded joint. The welding speed was 3.5 - 20 m/min. The magnitude of compression ranged from 0 to 4,000 kg. Experimental welds were made on 3 - 6 mm thick carbon steel strips with chamfered edges. Specimens of the welds were subjected to static tests and showed a strength equalling that of the base metal. The quality of the joint is determined by the uniform heating of the edges. Stable heating conditions are obtained at an opening angle of the edges not below 4°. The uniformity of heating is enhanced by a greater slope of the chamfer (β). Best results were obtained at $\beta = 42^{\circ}$. The quality of the welds depends moreover to a high degree on the dimension of the overlap which must be maintained with great accuracy. Satisfactory results when welding 3 mm thick strips were obtained under the following conditions: electric generator of 9 kw voltage and 9 amp current intensity; 6 m/min welding speed; 4,000 kg compressive force. It was established that the quality of joints when welding 3 - 6 mm thick strips was improved by increasing the compression of the edges in the welding area. Welding conditions for chamfered strips are given in Table 1 and mechanical properties of joints are represented in Table 2 and 3. Overlap welding of chamfered edges with radio frequency current may be used for the production of pipes with helical seams and for

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large-diameter pipes with straight seams. Welding without chamfering is simpler and may be used when the structures to be welded permit such type of joint. There are 7 figures and 3 tables.

ASSOCIATION: TsNIITMASh (Gel'man, Mel'bard); NIITVCh (Bogdanov, De-Millo); VNIIMETMASh (Grum-Grzhimaylo

Nauchno-issledovatel'skiy institut takov vysokoy chastoty

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BOGDANOV, V.N., inzh.

Practice of pipe cutting by rupture with zonal induction heating.
Stal' 20 no. 7:634-635 Jl '60. (MIRA 14:5)

1. Nauchno-issledovatel'skiy institut tokov vysokoy chastoty.
(Pipe cutting) (Induction heating)

BOGDANOV, Vasiliy Nikolayevich; LYUBOMIRSKIY, Iosif Solomonovich; SLITSKAYA, I.M., inzh., red.; FREGER, D.P., red.izd-va; BOL'SHAKOV, V.A., tekhn. red.

[Complex mechanization of cast-iron foundries] Kompleksnaia mekhanizatsiia chugunoliteinogo tsekha. Leningrad, 1961. 16 p. (Leningradskii dom nauchno-tekhnicheskoi propagandy. Obmen peredovym opytom. Seriia: Liteinoe proizvodstvo, no.9) (MIRA 15:5)

(Cast iron)